FEEDSTUFFS

The Weekly Newspaper for the Feed Industry

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Control Program On Market Birds Seen as Remote

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—Prospects for application of marketing orders and agreements for market turkeys and broilers must now be seen as remote.

It is correct that some USDA officials have been plugging for such use of this marketing technique and they have been influentially supported by some turkey producers and part of the troubled broiler industry.

The current administration at USDA is ready and willing to go all out to spend money to aid farmers. But marketing orders and agreements for market birds are not likely.

Competent USDA officials point out that the only vital point of control over the poultry industry is through the bottleneck point of the hatchery. These outlets are small in number, and by putting pressure on these points, it may be possible to effect control of production.

(A Georgia group has asked for

(Turn to CONTROL, page 107)

Industry Reminded

No Provisions for Production Quotas On Turkey Growers

MT. MORRIS, ILL.—The National Turkey Federation reports one of the strange developments in connection with the new federal farm bill is that many turkey growers are planning to increase production "to give us a bigger base when we get production quotas."

This idea is completely in error. The Agricultural Act of 1961 does not and could not provide for direct quota controls of the number of turkeys a farmer may produce. Neither does it provide for any restrictions on the number of hatching eggs a farmer may produce. The bill provides only the machinery whereby the turkey industry may develop marketing orders to regulate the supply of market turkeys and turkey hatching eggs marketed; regulate the within-season flow to market; establish minimum grade and quality standards for prod-

(Turn to NO PROVISIONS, page 8)

Lower Soy Meal Prices Predicted

INDIANAPOLIS—The calculating mind and machines of a university agricultural economist have it figured that the average price of 44% soybean meal, bulk Decatur, unrestricted billing, will be $52.85 ton for the coming market year—roughly $7-7.50 under current year's average.

The calculations which led to this prediction made by Dr. T. A. Hieronymus, University of Illinois professor, at last week's American Soybean Assn. convention here, considered the dominant factors of soybean meal supply, the expected number of soybean meal-consuming animal units and the anticipated index of livestock

(Turn to SOYBEAN MEAL, page 107)

Broilers Off to 10c; Georgia Group Asks Marketing Orders Applied at Hatchery Level

By ROBERT H. BROWN
Feedstuffs Special Correspondent

GAINESVILLE, GA. — Dime-a-pound broiler reached Georgia Thursday, Sept. 7—the lowest price in history—and skidding prices were reported throughout the broiler area from Delmarva southward. Skidding prices preceded by only a few hours a mass meeting of the Georgia Feed Dealers Assn. and the Georgia Poultry Federation, at which time federation members voted for "marketing orders" operated by the federal government.

Members also called upon Orville Freeman immediately to launch a buying campaign to take up surplus breeder hens as a stop-gap until possible marketing orders at the hatchery level and government "policing" could be put into effect.

Not only did Georgia prices hit a new all-time low, but North Carolina came close to the Georgia 10¢ figure.

Unsettled conditions also were reported in Alabama and Mississippi, where the price was 11¢ but was expected to decline in view of prevailing conditions toward the end of the week.

Offerings in Delmarva were reported heavy and exceeding demand, USDA said. The market was down ¾¢ there, with prices mostly quoted being 12 to 12.8¢.

Poultrymen attending the meeting here Thursday night voted 121 to 43 to ask for marketing orders. It

(Turn to BROILERS, page 103)

Market Action Disturbs USDA

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — A U.S. Department of Agriculture work force is currently considering proposals which, if approved by the Commodity Credit Corp., would end the payment-in-kind program Sept. 30 of this year.

It was learned from informed inside sources at USDA that the supply-management team is disturbed by the functioning of markets under the feed grain program. They have awakened to the shocking recognition that to penalize non-cooperators on the feed grain program they may not be able to sell pooled grains—corn or sorghums—or may not need to sell its pooled stocks of certificate grain to penalize the non-cooperators, since the open market has reduced prices for those commodities below even those that the master supply-management technician, Dr. Willard Cochrane, is said to have contemplated as a punitive price to the non-cooperators.

(Turn to USDA, page 107)

FEEDSTUFFS *Features This Week*

PRODUCTION EMPHASIS—This year's Feed Production School, which will again focus attention on efficiency in feed manufacturing, is all set for Sept. 11-13 at the Continental Hotel in Kansas City. Recognizing the importance of more efficient production, Feedstuffs has included in this issue several articles of specific interest to the production-minded reader:

New Mill—The flow of production through a new mill in Iowa is traced in an article starting on **page 18.**

Expansion—A three-year plant expansion program just completed is described on **page 40.**

Quality Control—Methods of determining the distribution of ingredients in feed mixtures are reviewed in an article starting on page 60.

POULTRY NUTRITION—The first part of a report on poultry nutrition from the annual meeting of the Poultry Science Assn. appears on **page 26.**

BROILERS—A story telling of new feed milling factilities added by a Texas broiler firm appears on **page 76.**

—REGULAR FEATURES—

Names in the News	10	Feed Service Bulletin Board	80
Joe Brooks	14	Monthly Index	84
Putting Research to Work	50	Convention Calendar	96
Worth Looking Into	68	Feed Markets in Detail	104

Illinois Ag Economists Peg Egg, Livestock Prices for Year Ahead

URBANA, ILL.—University of Illinois agricultural economists predict:

- Average egg prices will be lower in the next 12 months than during the past 12, but prices probably won't drop to the low levels of 1959-60.
- Prices of fed cattle are likely to average about the same during the next 12 month as in the past year.
- Prices of barrows and gilts probably will trend downward in eight Corn Belt terminal markets for the remainder of the year with prices for October, November and December averaging near $14-15.
- Lamb prices in the next 12

(Turn to PRICES, page 107)

Sales and Marketing Executives to Meet Sept. 20-21 in Chicago

CHICAGO—Leading marketing and sales executives from feed firms in all parts of the country are expected to gather in Chicago Sept. 20-21 for the third annual Marketing Seminar.

The seminar—sponsored by the Sales Executives Council of the American Feed Manufacturers Assn.—will be held at the Morrison Hotel. Because of the continuing changes and problems in the feed and related industries, the seminar will be a particularly timely and helpful event this year, officials pointed out.

Effective sales management and important aspects of handling sales manpower will receive particular attention from industry marketing and sales leaders. Agribusiness customers' technical service needs, end product marketing problems and business and

(Turn to EXECUTIVES, page 103)

Growers Step Up Marketings of 'Loss' Turkeys

By FRED E. TUNKS
Feedstuffs Staff

MINNEAPOLIS — There are a multitude of reasons for turkey feed volume dropping off fast now—and they amount to more than Thanksgiving being about 10 weeks away.

Marketings have been stepped up greatly in recent weeks, much of the volume ahead of schedule because a heavy share of the growers in the industry are losing money. Observations gathered from the feed and turkey trades this week indicate that many growers believe they're better off to sell their birds at lighter weights as soon as possible rather than keep them on feed any longer.

One feed man said some good growers are losing 6¢ lb. on the birds they send to market.

An efficient operator who cut his usual placements in half this spring because of price warnings wishes he had decided to get out of turkey growing entirely this year. He said he lost $5,900 on 16,000 birds. He figured his total costs at 21¼¢ lb., well over the prices he sold his birds for—17½¢ for toms and 19½¢ for hens.

"Asked for Trouble"

"The turkey industry asked for every bit of trouble it's in," this grower said. "If other growers had cut back we wouldn't be in this mess. Unless marketing orders are used, I think we'll go the way of broilers."

Although it is not known just how general this trend may be, reports from processors indicate that some

(Turn to TURKEYS, page 106)

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Top of the Hopper

AN ANALYSIS OF THE AGRICULTURAL ACT OF 1961 provided by the American Feed Manufacturers Assn. states very succinctly the problems which could result from controls over selected food products. The law authorizes marketing orders for turkeys but not for livestock, broilers or eggs. Pressures for enlarging the scope of the law are likely unless placements are cut enough to permit prices to rise to profitable levels, AFMA says.

"It would be difficult to control one major commodity without eventually controlling most other important commodities," AFMA points out. "If broilers were to be cut back substantially, for example, broiler producers would not be fully employed. Many would increase output of other animal products, thus resulting in overproduction. It would be difficult to operate a control program individually for broilers, hogs or beef cattle over an extended period of time without serious problems caused by interrelationships between the three commodities. If a control program should be developed for one of the three, it probably would eventually be extended to the other two."

AFMA does not say so, but the question logically can be raised as to whether acceptance of a control program by turkey producers (if they should decide to do so) would not be the opening wedge for broad meat production controls because of the interrelationships described above.

AFMA expresses the opinion, too, that agribusiness probably could not remain uncontrolled for long if controls are developed for livestock and poultry producers. "The extension of controls to suppliers such as feed companies and to meat packers and broiler processors would almost certainly be seriously considered within a few years. In many cases it might prove to be simpler to control a commodity by regulating a smaller number of agribusiness firms than to attempt to regulate a much larger number of producers."

Authority to control processors handling commodities under marketing orders is included in legislation already on the books.

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THE ABOVE COMMENT, circulated a few weeks ago, is particularly pertinent to the situation that is developing right now regarding increased demands for broiler marketing orders (see story on page 1). If under the stress of current low prices a shift of industry sentiment toward the control route is sufficient to force congressional action on broiler controls, the industry could find itself taking a giant step down the road to a web of restrictions from which it would be difficult to ever escape.

On the other hand, there would be ample opportunity for some very potent economic forces to bear down and right the situation long before the machinery of controls could be put into effect. The big question is whether or not these forces will be able to influence sufficient restraint on production in time to prevent more boardings of the control bandwagon. Time will tell, and time is getting very short.

Until recently at least, not many were cutting back broiler production, one southwestern observer pointed out. He said that it appeared that it might be another year before there was really substantial recovery in broiler prices. However, an improvement of 2 or 3¢ per pound would find some operators showing at least some profit.

In some areas, there were a few reports of broiler operations being halted entirely. Also, one report this week indicated that a few smaller contractors in the Georgia-Alabama area were dropping out.

The entire situation has found a rather marked switch in opinions on marketing orders or controls in at least some southern areas. While some

(Turn to **TOP OF THE HOPPER**, page 103)

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

In many of the more northern states this week, signs of a new feeding season were flashing. The weather, for the most part, is still mild, but pastures are wearing out.

August, a traditionally slow month, was one of those months feed manufacturers didn't miss when it became history. Feeders poured on their homegrown feeds and cattle were turned out into harvested fields.

Hog feed business seems to be the most promising. The hog-corn ratio shows this. The ratio, based on Chicago prices, climbed to 16.6 this week—.5 point above the previous week and 3.6 points above the comparable week last year.

The broiler-feed ratio continues unprofitable, but production rolls along at a pace far above last year. Poor returns on turkeys have tended to hurry marketings of the birds—and flocks are shrinking fast.

The U.S. Department of Agriculture says the index of the wholesale feedstuffs price slipped 1.1 points to 82.6 this week. A year ago it was 73.8.

The feed-grain index also declined. This week's index was 63.2 compared with 63.9 a week ago and 62.9 a year earlier. (Major markets roundup and ingredient quotations appear on pages 104-106.)

Northwest

Manufactured feed sales are running along at a good clip—but there's room for considerable improvement in income from these sales. With broilers and turkeys selling below cost of production, manufacturers directly involved in the production and marketing of birds are hurting because of poor returns on investment and the manufacturer selling to the farmer is having trouble collecting pay due him.

The beginning of a new feeding season is shaping up as a vehicle which will help roll the trade out of some difficulties. Hog feed business is good and apparently profitable. And increases in beef and dairy cattle feed business are showing up.

Generally quiet ingredient trading and a decline in oilseed meal prices were expected to cut formula feed prices some.

Southwest

Formula feed business in the Southwest is about on a par with last week. Most feed manufacturers plan to operate only four days this week due to the holiday, however there are occasional reports of five day operations.

Mixers report that hog feeds are selling in good volume and that shipments of pig feeds are stepping up as the heavy seasonal period for pig feeds approaches.

Shipments of cattle feed are picking up with feed lot operations taking an increasing amount of concentrate feeds. At the present, forward bookings of cattle feed are still small but with the approaching of a new crop basis on proteins, heavy bookings appear imminent.

Broiler rations and turkey feeds are holding up well with broiler feed volume heavy in spite of low broiler prices.

Formula feed price lists will be mixed with moderate reductions in most concentrate feeds to small increases in some complete feeds.

Northeast

September started off with formula feed sales rolling slightly ahead of a year ago in a carry-over from August's good demand.

Egg mashes were helped by a steady end-product market in the western New York area, and output was given a lift by demand for dairy feeds in the drouth-stricken parts of the New England states.

The sales pattern hasn't changed much in the western New York section, but dairy demand could be hurt somewhat by after-feed left in fields from the small grain harvest. Some farmers plant alfalfa and clover with their wheat and oats and when the grain crops are harvested they put their cows in the fields to feed on the forage plants.

Turkey feed demand will die out soon as the birds are slaughtered for the holiday trade.

Broiler prices in the New England area held around 13¢ lb., compared with 13-14¢ lb. in the preceding week.

Running time of formula feed manufacturers in western New York and the New England states was cut this week by the holiday to an average of 32 hours.

Southeast

Formula feed business in the Southeast is showing signs of improvement. Dairy feed business is picking up and many feed mills are buying heavier requirements of proteins for their feeds, although buyers are only buying on an as-needed basis, since they believe we will have lower prices when more mills are in operation.

Rains continue to hamper picking and ginning of cotton, and what cottonseed oil mills are operating, are only producing a limited amount of meal, with demand greater than supplies. This will keep prices on a very firm basis through the rest of this month, with practically no offerings.

Manufacturers of broiler feeds continue to report their operating time as being about normal. Most of the southeastern states continue to cut back on their chick placements, although their placements are still 112% over last year.

New crop corn is now coming into production, with sales being made from $1.20, f.o.b. south Georgia elevators to $1.30 bu., delivered, north Georgia broiler section, and many believe that within the next 30 days—if fair weather prevails for good harvesting—prices will decrease 15-20¢ bu.

Movement of citrus pulp is beginning to pick up, but many believe the new production season will be started with an inventory of between 20,000 and 30,000 tons on hand. Buyers are only ordering pulp on an as-needed basis.

Central States

Business appears to have picked up to some degree in this area. During the last full week of August and so far into September there has been just enough improvement to cause the commercial mixed feed trade to feel that it has finally passed out of the summer doldrums. Mills generally appear to have just enough of a backlog of orders to keep them rolling

(Turn to **MARKETS**, page 109)

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Congressman Asks Food Chain Probe

WASHINGTON — A member of Congress, worried over the price of broilers, cast an investigative eye toward the food chains by calling for a probe into their distribution systems.

Rep. James L. Whitten of Mississippi, chairman of the House Appropriations Subcommittee, said the concentration of power in large food chains is affecting the price of broilers as well as other producer prices.

He suggested a three-point investigation. For one thing, he proposed that the U.S. Department of Agriculture investigate to determine if any agricultural laws are being violated and if it is possible the department can regulate large food chains.

His second point proposed is a government study to determine whether food chain buying should be regulated in much the same manner as the buying of futures.

Thirdly, he wants a House Appropriations Committee fact-finding study.

Poultry producers, he said, are at the mercy of buyers who set the paying price for broilers. These men are few in number, he added.

"It is apparent that a large percentage of the total food sale business is in the hands of so few companies that the decision of a few people can easily ruin producers and greatly increase costs to the consumers," he said.

Mr. Whitten said he is going to talk with Orville Freeman, secretary of agriculture, as well as confer with other department heads.

Delay Seen in Any Marketing Order

KANSAS CITY — Industry representatives have been told that it would be from 8 to 12 months before any turkey marketing order could be devised and put into operation, even if the industry could reach accord.

This was pointed out in an American Poultry & Hatchery Federation report on industry-USDA discussions of a possible marketing order under the 1961 Agricultural Act. The new law brought turkey and turkey hatching eggs under the marketing agreements act.

Industry members, the APHF said, learned after a lengthy study of all angles involved that the development of a marketing order would not be a push-button matter. The report said that there continues to be a considerable difference of opinion among turkey industry leaders concerning the desirability of marketing orders despite the huge crop this year.

National Turkey Federation officials were said to have been disappointed that the new legislation would not permit establishment of a check-off to help in a national advertising and promotion campaign or for use in buying up and diverting surplus supplies of breeder hens, hatching eggs or poults.

Molasses Plant Set

SAN DIEGO — Construction of a $150,000 molasses distribution plant at the 10th Ave. Marine Terminal here was assured when the Harbor Commission approved a 20-year lease for Pacific Molasses Co., San Francisco.

John Bate, port director, said about 40,000 barrels would be brought here annually by tankers and barges from Mexico and Hawaii. The molasses will be shipped to Arizona, Imperial Valley and throughout San Diego County for feed. The plant also can be utilized for handling vegetable oils.

Work is starting immediately on three 25,000-barrel storage tanks and connecting pipelines at the terminal. The plant will be in full operation by January.

Elect 7 to AFMA Sales Executives Council Committee

CHICAGO — Seven new members have been elected to serve on the executive committee of the Sales Executives Council of American Feed Manufacturers Assn., Chicago. The announcement was made by the council's chairman, Robert D. Emmons, general sales manager, Wirthmore Feeds, Inc., Waltham, Mass.

The election took place by mail ballot during August and was conducted by the council's 225-company membership. Six of the new committee members will serve three-year terms and the seventh member is fulfilling an unexpired term of one year.

The three-year term members include: G. A. Ensminger, Albers Milling Co., Los Angeles; Laton M. Henderson, Doughboy Industries, New Richmond, Wis.; Edward E. Reynolds, Central Soya, McMillen feed division, Ft. Wayne, Ind.; W. F. Schafenacker, Kent Feeds, Inc., Muscatine, Iowa; Paul L. Siegler, John W. Eshelman & Sons, Lancaster, Pa., and Davis D. Smith, Flint River Mills, Inc., Bainbridge, Ga.

H. B. Morris, Ralston Purina Co., St. Louis, will fulfill the one-year unexpired term of J. E. Streetman, who recently resigned from the same firm.

Those who have one or two years remaining of their term on the executive committee include: Emmet G. Amdahl, Golden Sun Milling Co., Estherville, Iowa; Edward C. Aubrey, Aubrey & Co., Louisville, Ky.; Mr. Emmons; E. J. Slevin, General Mills, Inc., Minneapolis; Robert E. Miller, the Beacon Milling Co., Spencer Kellogg division of Textron, Inc., Cayuga, N.Y.; Marshall W. Backus, Cooperative GLF Exchange, Ithaca, N.Y.; Wesley E. Ballmann, Burrus Feed Mills, Ft. Worth, Texas; Paul Cory, Moorman Manufacturing Co., Quincy, Ill.; M. R. Eighmy, Gooch Milling & Elevator Co., Lincoln, Neb.; Earl P. Mitchell, Alabama Flour Mills, Decatur, Ala., and Dale Smith, Western Farmers Assn., Seattle, Wash.

Buffalo Grain Millers Walk Off Mill Jobs

BUFFALO, N.Y. — Buffalo grain millers walked off their jobs at two different waterfront flour mills here Sept. 7, defying union leaders' pleas to return to work so stalemated contract talks could be resumed.

The unscheduled walkout, the first since Grain Millers Local 36 contracts with flour mills expired July 1, began at the International Milling Co., where about 135 men left their machines.

Later, about 70 men walked from their jobs at Russell Miller Milling Co., and refused to return to work.

Oregon Meetings

PORTLAND, ORE. — A series of district meetings is planned by the Oregon Feed & Seed Dealers Assn. for September and early October, it was announced by James McDowell, president.

Initial event will be the annual fall golf tourney and corn feed sponsored by the Washington County district. The affair is booked for Sept. 19 at the Forest Hills golf course, Cornelius. Myron Ray, district governor, reports that general chairman will be Hal Berven, Bemis Bro. Bag Co. here.

Other meetings include a session of the association board of governors Sept. 14 at the Congress Hotel here. Gatherings are also planned for the Ontario district Sept. 27; LaGrande-Pendleton, Sept. 28; Eugene, Oct. 3, and southern Oregon, Oct. 4. Still to be scheduled are sessions at Salem and Albany.

Delmarva Finishes 5th 'Red' Broiler Month

SALISBURY, MD. — Broiler feed contractors in Delmarva now have their fifth month of production in the "red" under their belts.

August prices averaged 14¢ per pound for broilers at the farm. This was about 2¢ below the cost of production. August, 1960, the average price was 17.4¢, or 20% more than last month. April and May of this year both had average prices of 15¢. June and July had prices of 13.5¢ per pound.

Feed prices during August averaged $4.65 per 100 lb. This was a 1% increase over a year ago. The only relief was in chick cost. Chicks averaged 10¢ each last month compared to 13¢ a year earlier, a decrease of 23%.

For the week ending Sept. 2, the average price received for broilers in Delmarva was 12.62¢. The week earlier, the average was 13.06¢. A year ago, the price was 17.22¢ for the comparable week.

Maybe things will change in the broiler industry nine or 10 weeks from now. Nationwide, last week, hatcheries cut back a significant amount. Hatcheries in the 22 reporting states set 40,560,000 eggs. This was 5% below the previous week and 2% below the corresponding week a year ago.

Chick placements in the 22 states totaled 32,525,000. This was 3% below the previous week, but still 10% above the corresponding week a year ago.

Named Vice President Of Honeggers' & Co.

FAIRBURY, ILL.—The election of Floyd Bond to vice president of Honeggers' & Co., Inc., has been announced by E. F. Dickey, president of the Fairbury feed manufacturing firm. Mr. Dickey also announced Mr. Bond's appointment as general manager of the company's Lincoln, Neb., operations.

Floyd Bond

Mr. Bond has been heading Honeggers' beef department and also acting as coordinator of the company's beef research. The Bond ranch and feedlots at Central City, Neb., will be used for Honegger beef cattle research and demonstration purposes. In addition to his new duties, Mr. Bond will continue to operate his farming, feeding and ranching interests at Gresham and Mullen, Neb.

Nulaid Farmers Assn. Buys Processing Plant

SAN LEANDRO, CAL.—The Nulaid Farmers Assn. here has acquired ownership of Mowrer Farms Processing & Marketing facilities at Turlock, Cal., according to announcement by Norman F. McIntyre, general manager of Nulaid.

Mr. McIntyre said Gordon Mowrer will continue to manage the plant's procurement and processing operations and Woodrow Mowrer will be engaged in marketing activities.

Nulaid's new Turlock acquisition is equipped for processing turkeys and will be expanded to handle fryers and fowl, said Mr. McIntyre.

The Mowrers have been engaged in the turkey business for the past 10 years, marketing under their own brand name. The brothers have also raised turkeys.

Revelation of this action came on the heels of ground breaking ceremonies for a new processing plant at Gilroy, Cal., which is a joint venture between the Nulaid organization and American Poultry Co., San Francisco.

Galvin Estimates Soybean Bushelage At 738 Million

By F. C. BISSON
Feedstuffs Special Correspondent

CHICAGO—Crop forecaster C. M. Galvin's post-Labor Day estimates carry two big surprises for the grain trade: On corn, because it showed only a very modest betterment over the official one of a month earlier, and on soybeans, because it revealed such a terrific build-up from both the August official figures and Galvin's own estimate as of then.

Mr. Galvin's estimate of 3,389,561,000 bu. for corn is only 37½ million bushels larger than the month-ago one from the U.S. Department of Agriculture, which, in terms of percentage of betterment, is a rather scanty one at best, considering the extremely favorable growing weather that was on the day-by-day menu all through August. No yield-per-acre corn figure was indicated in this newest private estimate, but the condition of the growing crop was set at 92% of normal or one full point better than a month earlier.

The thing which puzzled many in the grain trade was that in view of the fact the same weather that put so many more beans on the stalks than a month ago, failed to be the same good medicine for corn.

For instance, only a little over 1% represented the increased corn bushelage between the September private estimate and the government August compilation—and an improvement of only approximately 2% when matched up with Galvin's own Aug. 1 figure.

Soybean Picture

But on soybeans the picture was an entirely different one. Matching Mr. Galvin's September soybean figure against the government one of a month earlier, the current bushel figure is up 7½%. Then doing the same thing with Mr. Galvin's September estimate and his own of a month earlier, an improvement of about 11½% shows up.

There is something there that does not register with the "lay" mind, even granting that corn and soybeans are not "the same breed of cats."

Mr. Galvin's estimate of 738,384,000 bu. soybeans was a body-blow to bulls on that oil seed. Some idea of its real immensity can be gathered from the fact that Mr. Galvin's figures are all-time highs, not only on the total bushel prospect but likewise on the yield per acre at 27.2 bu. and the condition of the growing crop at 95% of nor-

(Turn to GALVIN, page 107)

Doughboy Plans to Buy Electronics Firm

NEW RICHMOND, WIS.—Doughboy Industries, Inc., New Richmond, has announced plans to acquire Televisco Corp., Wheeling, Ill., in a $4½ million exchange of stock.

The plans, agreed on by directors of both companies, are subject to vote by Televisco stockholders Sept. 15.

Doughboy officials said the acquisition will bring the firm into a new field as part of its growth and expansion program.

Doughboy, with offices in Minneapolis, produces feed, industrial and recreational products. Televisco manufactures electronic equipment for use as ground-to-air aids to navigation for commercial and military aircraft.

Officials declined to give figures on sales and employment of Televisco.

The acquisition will be effected by an exchange of common stock on the basis of 0.478 of a share of Doughboy for each share of Televisco. Doughboy has 294,175 shares outstanding and Televisco has 285,000 shares.

A previous Doughboy acquisition was last year when it purchased Ames (Iowa) Reliable Products, Inc.

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30% corn distillers grains

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OFFICERS—Officers of the Kentucky Feed & Grain Assn. were elected at the group's annual meeting in Louisville. Left to right are Louis E. Shadburne, Henry Fruechtenicht & Co., Louisville, outgoing president; Carroll Henry, Crescent Roller Mills, Taylorsville, vice president; Eldred Neubauer, Farmers Elevators, Inc., Owensboro, president, and Jack Weber, Lexington (Ky.) Roller Mills, secretary-treasurer.

Optimistic Views Voiced at Kentucky Feed Conference

By Special Correspondent

LOUISVILLE — Current problems may be many, and changes may accelerate, but a spirit of optimism was generated in Kentucky Feed Conference talks dealing with the longer term agricultural and feed industry future.

The annual meeting, held at the Brown Suburban Hotel in Louisville, was sponsored by the Kentucky Feed & Grain Assn. and the University of Kentucky. The program covered both industry developments and nutrition and other technical subjects.

A farm spokesman said that the "golden age of agriculture" is just ahead. There was a prediction that manufactured feed tonnage may go to some 60 million tons by 1970. Income from beef cattle in Kentucky can increase by $100 million during the next 10 years, another speaker said.

While there will be opportunities, there also will be changes and problems, the feed men were warned. And several prospective changes in the industry's way of doing business were spelled out by a veteran industry observer, E. G. Cherbonnier, feed advisor for the Grain & Feed Dealers National Assn. (Also see earlier story on his talk on page 38.)

Industry Predictions

Here are some of the predictions made by Mr. Cherbonnier for the next several years:

—Different feeds for shorter periods in poultry cycles have developed, and this sort of thing may develop still more. This will include swine feeds, too, and possibly even cattle feeds.

—There will be more disease prevention in feed if the Food and Drug Administration doesn't put up too many obstacles.

—There will be more use of synthetic amino acids, with thinking not so much in terms of protein but in terms of the basic amino acids.

—Work is being done with whole soybeans and "you can't laugh that off." There may be some treatment of whole soybeans. Maybe the oil will be partly taken off. It may be cheaper to have the oil come directly from the bean.

—Feed men themselves may not get involved in wafering hay, which is expensive now, but the time may come when this process will develop and be made cheap.

—Sand is not a likely ingredient, but there may be more use of this sort of thing and such things as corn cobs.

—There will be more day-to-day formulation, especially with linear programming. In this connection, mention was made of a British operation which Mr. Cherbonnier visited. British control regulations don't require a statement of ingredients. An analysis is given, and that is all that is required. If a certain oilseed meal is too high priced one day, it is left out of the feed entirely, providing, of course, that nutritional requirements are met. If it is lower later, it goes back into the formula. It was indicated that this type of operation represents a "great favor for the farmer." The time will come when feed tags in the U.S. will have only the analysis and a listing of certain critical ingredients that control people think should be listed; also, screenings and other things may be stated as long as control officials think it necessary. It should not be necessary to keep changing the registration and feed tag.

—As specialization and size of units in animal agriculture increase, there will be a still greater need for better training of feed men, and more college level training is advisable, including short courses.

—The feed man in the future will have to make more farm calls, will have to get out and see what customers' problems and requirements are. Farmers' choices of feed may hinge more on service that they get.

—Credit continues to be a major problem. Some feed people have gone to considerable effort to get local bankers to handle more credit, to interest bankers in animal agriculture. Many feed companies now give salesmen less bonus credit for business that has to be financed. This shows that they are not trying to encourage finance business.

—There will be more direct delivery to the farm. The feed man will have to be in the trucking business more than he has in the past. In England, most feed stores didn't have displays. Feed goes directly from mill to farm. The local feed men didn't expect farmers to come to their stores. They were really in the delivery business.

—Bulk business will continue to grow. And the grain bank continues to grow rapidly. At first some did not charge for storage, but now they are swinging back to a reasonable charge. In some states, warehousing laws have been changed to permit grain bank operations.

—On-farm mixing isn't likely to be successful for critical feeds like feeds for chicks and growing pullets or baby pigs. The farm mixing unit that would be accurate is very expensive, and it still can't pellet. But where there is a big operation and labor is available, there may be a turn toward more farm mixing. In that case, the alert dealer will have a concentrate for the feeder to use.

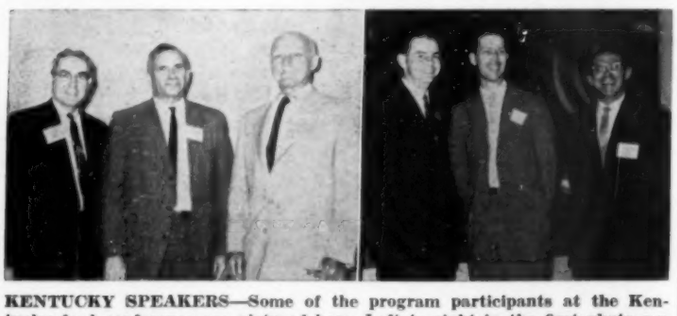
—Mobile mills are now operated by substantial dealers, and in many cases they are successful. This will grow. Most failures have been caused by not having a good man on the machine. Service is increasingly important.

While many changes are likely, Mr. Cherbonnier pointed out that the final answer is whether they are good for the farmer. "Let's don't have change just because it is change," he cautioned. He also emphasized that the three I's—integrity, intelligence and industry—will not go out of style in any business.

Control Developments

Lee Boyd, director of feed control and nutrition, American Feed Manufacturers Assn., traced developments in feed control and likened them to a three legged stool, with (1) the feed manufacturing and distribution, (2) state laws and officials and (3) fed-

(Turn to KENTUCKY, page 108)



KENTUCKY SPEAKERS—Some of the program participants at the Kentucky feed conference are pictured here. Left to right in the first photo are Bruce Poundstone, head of the feed and fertilizer department at the University of Kentucky; Dr. W. P. Garrigus, head of the animal husbandry department, and E. G. Cherbonnier, Grain & Feed Dealers National Assn. feed advisor. Second photo, Lee Boyd, director, feed control and nutrition, American Feed Manufacturers Assn., Chicago; Dr. G. E. Mitchell, animal nutritionist at the university, and Dr. John Begin of the poultry science department.

To Discuss Problems Caused by Zeleny Test

FT. WORTH, TEXAS—A special meeting has been scheduled for grain and flour industries to discuss problems arising from incorporation of the Zeleny sedimentation test in the wheat loan program for 1962. The meeting will take place at the Worth Hotel, Ft. Worth, Sept. 18, beginning at 10 a.m.

Speakers will include Dr. Lawrence Zeleny, U.S. Department of Agriculture, originator of the sedimentation test for wheat protein evaluation, who will discuss the procedure and other aspects of the test.

Other speakers will be R. D. Zumwalt, executive vice president, Burrus Mills, Inc., Dallas, who will give the flour miller's point of view on the problems created, and W. L. Newsom, Garvey Elevators, Inc., Ft. Worth, who will discuss ways in which the grain trade can meet the situation. C. H. Moseley, regional director at Dallas for the Agricultural Stabilization & Conservation Service, will speak on the test as related to the loan program.

The meeting has been arranged by Ray Bowden, secretary of the Texas Feed & Grain Dealers Assn.

Broiler Operation Shutting Down

SAN ANGELO, TEXAS—The largest broiler operation in west Texas is shutting down operations because of low prices. Paymaster Farms announced that the broiler processing operation is closing and that some of the farms will probably be sold.

The original operation was started by Marion Balch, local feed dealer, back in the early 1950's and then was sold to Paymaster Feeds about two years ago. The new owners were said to have made plans for a major expansion and were setting up several new units composed of broiler houses, feed storage and houses for resident managers.

The processing plant, B. & B. Produce Co., has been processing not only broilers but also eggs, and both items have been distributed in many communities in west Texas and New Mexico. The plant employed nearly 100 persons.

If the firm had gone ahead with original plans, it would have been raising nearly 2½ million birds per year, it was indicated. Other broilers were shipped in from the east Texas area to keep the processing plant busy.

Paymaster had changed its feeding system after acquiring the property from Mr. Balch. The company began shipping all feed in by rail from Abilene. It worked by contract with farm growers but was putting in new houses which would have been company-owned and operated.

The industry was formed during the long drouth when Mr. Balch's feed business with ranchers had dwindled to almost nothing.

He built the broiler plant and contracted with farmers to grow the birds. The business had its ups and downs, local observers said, and in recent years many farmers had become discouraged and left their houses vacant.

It was then that Paymaster bought the property and made plans for expansion. Reason for the curtailment of operations was low broiler prices, according to W. A. Gandy, manager of Paymaster Farms.

During the last two years the company had developed an egg project, and this will continue, said Mr. Gandy. The processing plant will be used for storing and processing eggs. A recent count showed that the company had about 55,000 commercial hens in the area and was selling 18,000 dozen of eggs per week.

Paymaster, which is a subsidiary of Anderson, Clayton & Co., had been selling feed to broiler producers for several years, but this was the company's first venture into the production of broilers in this area.

New Engineering Firm Formed in Kansas

HUTCHINSON, KANSAS—A new firm specializing in the design, construction and remodeling of feed mills has been formed by A. E. (Bill) Rankin of Hutchinson and Wayne R. Davy of Broomfield, Colo. It is headquartered here.

Mr. Rankin was previously in charge of feed mill construction for Borton, Inc., Hutchinson, and was for five years a sales and service engineer for Sprout, Waldron & Co., Inc.

For several years, Mr. Davy has been an officer and part owner of Chandler-Simpson, Inc., a Denver oil company. Earlier he was employed by a firm engaged in constructing, remodeling and repairing grain elevators and feed mills.

IDAHO FIRE

DRIGGS, IDAHO—Fire caused $1,500 estimated damage to the Green Milling Co. here. Owners Carlyle and Oscar Green reported that the loss was not covered by insurance.

Dean W. Stauffacher | Dr. O. Burr Ross | Rita Weaver | Dr. Jerry Sotola

NFIA Announces Convention Plans

DES MOINES—Medicated feed requirements and vitamin A will be featured topics at the opening session of the National Feed Ingredients Assn. convention Sept. 27-29 at Lake Lawn Lodge in Delavan, Wis., according to I. Levin, executive secretary of the Des Moines association.

Dean W. Stauffacher, Diamond V Mills, Inc., Cedar Rapids, Iowa, association president, will welcome members to the first session Wednesday afternoon, Sept. 27, with Maurice Baringer, Oelwein (Iowa) Chemical Co., chairman, presiding. A Scientific Advisory Committee meeting will follow.

"Requirements for Medicated Feeds" will be discussed at the session by Dr. Forrest Quackenbush, Indiana state chemist and seed commissioner, Purdue University, Lafayette.

Dr. Quackenbush's talk will be followed by a seminar on vitamin A, with Wm. L. Brickson, Specifide, Inc., Indianapolis, Ind., acting as seminar leader.

Discussion leaders at the seminar will include: Dr. T. W. Perry, Purdue University; Dr. D. B. Parrish, Kansas State University, Manhattan; Robert Wornick, Chas. Pfizer & Co., Inc., Terre Haute, Ind.; Dr. Stanley Ames, Distillation Products Industries, Rochester, N.Y.; Dr. Quackenbush; Joe Chrisman, American Dehydrators Assn., Kansas City, and Charles Ely, Nopco Chemical Co., Harrison, N.J.

The seminar will be followed by a social hour and banquet.

Thursday Festivities

"Current Aspects of Feed Control" will be discussed by Bruce Poundstone, secretary of the Association of American Feed Control Officials, Lexington, Ky., at the Thursday morning session. Other topics and speakers slated to be heard at the session include: "Factors Affecting Meat Value and Quality," Dr. O. Burr Ross, University of Illinois, Urbana; "Human Nutrition as Related to Feeding Livestock," Rita Campbell Weaver, National Livestock & Meat Board, Chicago, and "Research Will Show the Way," Dr. Jerry Sotola, Livestock Bureau, Armour & Co., Chicago.

Thursday afternoon festivities will include a golf tournament, bridge tourney for the ladies, smorgasbord dinner in the evening and section meetings.

Featured speaker Friday morning will be John M. Coppinger, General Electric Co., Phoenix, Ariz., who will discuss "What Makes Your Buyer Tick—Psychologically." A noon luncheon will climax the three-day convention.

Plan Broiler, Egg Event At Mississippi State

STATE COLLEGE, MISS.—A four-day broiler management and egg production school is scheduled to get underway at Mississippi State University Sept. 18-21, under sponsorship of the Mississippi Poultry Improvement Assn.

The first two days are to be devoted to broilers and the balance of the sessions will be concentrated on eggs.

The completely enclosed house, currently a hot topic in the South, will be discussed by Van H. Stephens at the first session.

Industry Trends To Be Aired at Dixie Exposition

By ROBERT H. BROWN
Feedstuffs Special Correspondent

ASHEVILLE, N.C. — The poultry business may be in the doldrums, but by bus, train, plane and gasoline buggies, the industry's leaders began arriving here this weekend for the annual Dixie Poultry Exposition.

Firms may be going under every week, as some say, and the poultry business may be losing several million dollars a week as some of the pro-Hoffa people said, but it doesn't appear that way because there isn't a hotel room in downtown Asheville and every foot of the exhibit space in the municipal auditorium where sessions are held every year has been sold. Further, the exhibit space was sold out for some time, according to N. B. Nicholson, secretary.

However, for the benefit of the last-minute traveler, there is some motel space out on the edge of the business district.

As to be expected, government controls, inside controls and what the future holds for the business head the program, but be the market price ever so humble, a poultryman is going to study new ways and methods, and that has been arranged for also. There'll be discussions on housing, product preparation of tomorrow, exploring new markets, etc.

The ceremonies begin at 8 a.m. Tuesday, Sept. 12, when "broke" poultrymen will begin trekking through the exhibit hall to see what kind of new equipment they will need for the forthcoming year.

Turkey men will kick the sessions off, and assuredly one of the prime topics will be government controls, which the industry has found on its doorsteps.

Harvey Green of Spartanburg, S.C., that vitriolic foe of any sort of government interference with private enterprise, is on the bill to tell the turkey people "How Much Government Should We Have in the Turkey Business." He's been allotted 45 minuites, he says, to tell them THAT!

There will be turkey, broiler and egg sessions, and industry leaders and technical specialists from the Southeast and elsewhere will cover such subjects as poult and egg quality control, turkey disease, turkey business future, new markets, marketing orders, poultry housing, egg industry trends and layer diseases.

Buys 9,625,000 Lb. Of Frozen Turkey

WASHINGTON — Purchase of 9,625,000 lb. of frozen ready-to-cook U.S. Grade A turkeys to be distributed for use in school lunches was made Sept. 1 by the U.S. Department of Agriculture.

Turkey purchases are being made under a program announced July 31 to help remove excess supplies from the market.

Prices paid for the purchase ranged from 29.07 to 31.25¢ lb. Total offerings amounted to 42,900,000 lb. and offers were accepted from 24 of the 62 firms submitting bids. Total cost of the purchase was $2,885,000. Shipments on the bids are to be made during the period Sept. 18-Oct. 15.

Next offers are due Sept. 12.

The action brings total purchase to 17,435,000 lb. at an approximate cost of $5,273,000 since the program's start.

'NO. 1 PROBLEM—TOO MUCH FEED CAPACITY'

KANSAS CITY — The poultry industry's No. 1 problem has been described as "too much feed-making capacity."

This comment was made in an American Poultry & Hatchery Federation report on over-production of broilers and the possible beginning of a move toward federal regulation of production and marketing in the poultry industry.

Said APHF in regard to feed manufacturing: "Push-button mills—large or small—cost money. Nothing can be made on an investment unless the mill is making feed. There is no point in making feed unless the feed can be consumed.

"Companies which heretofore had large dealer outlets for their feed saw those same outlets start making their own product as they became more engrossed in massive grow-out operations.

"In order to provide outlets for the feed that their new mills were designed to make, they found it imperative to set up poultry units which would consume feed fast."

TVA Says Traffic on Tennessee River Moving

DECATUR, GA. — The Tennessee Valley Authority has announced that traffic on the Tennessee River is beginning to flow again and that a second marine leg for the movement of grain over Wheeler Dam is scheduled to go into operation within the next few days.

Movement of grain and other materials up the river was stopped June 2 when a wall around a lock at the dam collapsed, causing interruption in the routine of grain movements from the Midwest into the southern poultry centers.

One of the two marine legs has been in operation for several weeks. It is a mechanical conveyor that lifts grain from a barge downriver, carries it on a bucket conveyor across the dam and dumps into a barge which takes it to ports in Guntersville and Chattanooga.

"Most of the commodities interrupted by the lock wall collapse are now moving over or around the dam and the volume of movement is growing. The traffic is either moving by pipeline, marine leg or by truck around the dam," the TVA announced.

One pipeline over the dam for soybean oil started operating Aug. 11, and another for molasses was inaugurated the next day, TVA said.

Nystatin Petition Filed with FDA

WASHINGTON — The Food and Drug Administration announced that a food additive petition has been filed by E. R. Squibb & Sons, Division of Olin Mathieson Chemical Corp., dealing with use of nystatin in turkey feeds.

The firm proposed issuance of a regulation to provide for use of nystatin in turkey feeds as follows: (1) Continuously—for prevention of crop mycosis and mycotic diarrhea—50 gm. per ton. (2) 7 to 10 days—for treatment of crop mycosis and mycotic diarrhea—100 gm. per ton.

OPENS MINNEAPOLIS OFFICE

PORTLAND, ORE. — John Blake Hering, owner of the John B. Hering Co., grain brokerage firm here, has announced the opening of a new office in Minneapolis. The new firm will be known as the James T. Dunn Co., with Mr. Dunn functioning as manager and partner.

Change Antibiotic Level Regulations

WASHINGTON — The Food and Drug Admininstration has issued an order spelling out a requirement that stated minimum levels of certifiable antibiotics for disease control are also maximum levels.

The action was taken in amendments of the certifiable antibiotic regulations.

The regulations have listed "not less than" certain levels for various uses in control of certain poultry and livestock diseases. The amendments delete the words "not less than" from the regulations. The specified levels thus become single permitted levels.

The action now taken formally was indicated previously in a talk by an FDA official, who said that the specified minimum level of a certifiable antibiotic for disease control also was the maximum permitted level, even though the regulations did not then so specify. (Feedstuffs, March 25, page 6.) The official also discussed permitted levels of other drugs in feeds.

In announcing the amendments in the Federal Register, FDA noted that several parts of the antibiotic regulations did not prescribe maximum amounts that may be used. These regulations, it was pointed out, have been in conflict with the food additives amendment. Therefore, the changes in the wording were made.

Antibiotics affected by these particular amendments include chlortetracycline, streptomycin, bacitracin and penicillin.

Pennsylvania Says Feed Millers Are Really Manufacturers

EPHRATA, PA. — Pennsylvania's legislature and governor have declared by vote and signature that the state's feed manufacturers are really manufacturers. This declaration, which ended a 2½-year Capital Hill feud and assured millers of exemptions under capital stock tax and sales tax laws, came in the form of two bills, numbers 1663 and 1664, signed by Gov. David Lawrence.

The Pennsylvania Millers & Feed Dealers Assn. notes that back when the knotty tax problem was first making itself known, Pennsylvania's legislature had said all manufacturing was exempt from capital stock tax and sales tax laws, but the need for revenue prompted the state to have another look at its decision—and the lawmakers found no recent court decisions in the areas of feed manufacturing and flour milling. So, early in 1959 the department of revenue came up with the opinion that feed making was not manufacturing and that flour making was in a state of limbo.

"Countless conferences were held, in which responsible officials were given a liberal education of the processes involved, but in the final analysis, there seemed to be no progress," a bulletin of the Pennsylvania association relates. "Further hampering efforts were cases involving other in-

(Turn to PENNSYLVANIA, page 108)

Bacitracin-Penicillin Combination Asked

WASHINGTON — The Food and Drug Administration announces that a food additive petition has been filed seeking clearance of a zinc bacitracin-penicillin combination in chicken feed.

Commercial Solvents Corp. has proposed issuance of a regulation to provide for use of a 3:1 combination of zinc bacitracin and procaine penicillin for growth promotion, with levels of the combination per ton of finished feed not less than 4 gm. and not more than 50 gm.

Propose Redefining Application of Wage Law to Elevators

WASHINGTON—U.S. Department of Labor is proposing an amendment to the Wage & Hour Law to redefine the "area of production" in regard to the law's application for country elevators.

Text of the Labor Department announcement follows:

"The proposed amendments would include a section defining the term 'area of production' as used in Section 13(a)(17) of the act, which exempts employees of country elevators having not more than five employees from the minimum wage and overtime provisions of the act. They would also delete any reference to the ginning of cotton in the section defining the 'area of production' as used in Section 13(a)(10), because of the deletion of ginning from that section by the 1961 amendments to the act.

"A country elevator would be considered within the 'area of production' if it is located in the open country or in a rural community, and 95% of the agricultural commodities received for storage or for market come from normal rural sources of supply within specified distances from the establishment. These distances would be 50 miles with respect to grain and soybeans, and 20 miles for any other agricultural commodities. 'Open country or rural community' and 'normal rural sources of supply' are defined as in the existing regulations.

"Interested persons have until Sept. 23 to file written data, views or arguments relating to the proposed revision. Statements should be sent to the Administrator, Wage & Hour & Public Contracts Divisions, U.S. Department of Labor, Washington 25, D.C."

NO PROVISIONS

(Continued from page 1)

ucts marketed; and establish surplus and diversion programs.

Those who have the erroneous idea there might be advantages in producing more turkeys or turkey hatching eggs to increase their "quota base" may actually be developing a program that will result in a greater penalty in the way of marketing restrictions when and if any marketing orders ever are developed, NTF said.

It is emphasized this legislation is an entirely new concept in approaching the problems of the commodities specifically named in the bill—including turkeys and turkey hatching eggs. It has no connection with the federal price-support production-control program. Those who have not familiarized themselves with the facts about the new legislation are urged to do so. (See Feedstuffs, Aug. 26.)

It also is emphasized the Agricultural Act of 1961 does not put into motion any regulations or restrictions of any kind. It merely provides the machinery whereby the turkey industry may develop some types of new programs if the large majority of industry members desires such programs.

The National Turkey Federation has requested the Secretary of Agriculture to appoint an industry committee to study further the possibility of developing any marketing order related to turkeys and turkey hatching eggs. At the present time the Secretary is in the process of setting up such an industry committee.

TO MOVE OFFICES

KANSAS CITY — Riley Feed Co. will move its offices Sept. 11 from the Board of Trade Building in Kansas City to 5238 Belinder Ave., Shawnee-Mission, Kansas, a suburb of Kansas City, J. H. Riley, head of the firm, announced.

Northwest Retail Feed Event Set Sept. 17-19

MINNEAPOLIS — Plans for the Sept. 17-19 convention of the Northwest Retail Feed Assn. at Hotel Pick-Nicollet in Minneapolis have been announced by George Kolb, Jr., association president from Belgrade, Minn.

The three-day event will open Sunday, Sept. 17, with registration and a directors meeting, said Mr. Kolb, who explained why the convention dates had been changed from January to September. He listed conflicting grain, feed and other agribusiness conventions during January, and the uncertainty of winter weather as reasons for changing to a September date.

The main program will get underway at a Monday luncheon, and will feature Don Cassidy, group promotion manager for the Minnesota Twins, and John K. Minnoch, Chicago, humorous business and sales speaker.

Most of Monday afternoon will be devoted to a workshop series of sessions, which will see four topics aired.

Pete Stallcop, secretary of the Northwest Country Elevator Assn., with Carroll Scow of the Long Prairie (Minn.) Milling Co. as moderator, will cover the new wage-hours regulations. R. E. Bergman, director of the feed and fertilizer division of the Minnesota Department of Agriculture, has U.S. Food & Drug Administration regulations as his topic. Ken Nold of Osborne McMillan Elevator Co. will backstop for him.

Al Haga of the Peterson-Biddick Co. at Wadena, Minn., will team up with Richard M. Bird of the Goodhue County National Bank, Red Wing, Minn., in a discussion of credit problems confronting both farmers and feed dealers.

The last portion of the workshop will be in the hands of Jack Conlee, Osborne McMillan Elevator Co. vice president, Minneapolis. Mr. Conlee will moderate a talk by Warren Engelland, regional sales manager, Nutrena Mills, Minneapolis, entitled "Outside Salesmen—Good or Bad?"

Other Activities

A free cocktail hour for all persons registered at the convention and their ladies will replace the annual banquet Monday night.

Tuesday's session will feature discussions on livestock management and nutrition. This section of the program will be in the hands of Dr. Lester E. Hanson, chief of the animal husbandry division at the University of Minnesota. Two other University staffers—Dr. Robert J. Meade and Dr. Olaf E. Kolari—will appear on the program. Dr. Meade, associate professor of animal husbandry, will review SPF work in swine.

Memphis Group Plans Feedlot Operation

MEMPHIS, TENN.—A group of Memphis investors has completed arrangements for the purchase of 127 acres in Shelby County to open the way for construction of what is described as the mid-South's largest commercial feedlot operation.

Walter J. Keltner, who headed financing negotiations for the group, said the feedlot will be built with a capacity for 6,000 head of beef cattle and will cost about $750,000. Modern, push-button feed mill facilities will be installed, and upright and flat storage facilities will be constructed for about ½ million bushels of grain.

$35,000 FIRE DAMAGE

HANOVER, MD. — Fire destroyed 40 to 50 tons of grain and caused an estimated $35,000 damage to a hatchery near this Anne Arundel County community. The blaze burned through the roofs of a grinding mill and a storage barn at the Duckworth Hatchery & Feed Co.

Lawrance Elfelt Heads L.A. Grain Exchange

LOS ANGELES—Lawrance D. Elfelt, Cargill, Inc., was elected president of the Los Angeles Grain Exchange at a special meeting of the board of directors. Mr. Elfelt will complete the term of William P. Mathews, who has resigned the post due to ill health.

Lawrance D. Elfelt

The new president, a graduate of the University of Minnesota, has been associated with the grain and feed industry for over 16 years and will be the 47th man to hold the exchange post.

Other director business included the appointment of Dale C. Francis, Poultrymen's Cooperative Assn., to fill the vacant directorship.

Newly elected officers to serve with Mr. Elfelt include Paul H. Bimerman, The Quaker Oats Co., vice president; Jack W. Flammer, J. W. Flammer Co., treasurer; and R. C. Anspach, Wilbur Ellis Co.; Clark W. Ash, E. D. Wilkinson Grain Co., and E. W. Nelson, Snow & Co., will continue as directors.

Court Investigation Of Broiler Prices Started in Texas

AUSTIN, TEXAS — A court inquiry investigating the low price of broilers was initiated here Sept. 7. Will Wilson, attorney general, said the investigation, requested by his office, is being held to determine whether anti-trust laws are being violated.

Below-cost prices being paid to Texas broiler producers threaten "collapse" of the industry, Mr. Wilson said.

According to a Texas report the attorney general wishes to determine whether there "is an effort to price Texas poultry production out of business. Our investigation is aimed at determining the reason producer prices have failed and why the price paid by retailers—largely big chain stores—is lower than costs of production."

Gordon Cass, assistant attorney general, noted that broilers in Gonzales County, the first area in Texas to develop large-scale broiler production, are generally grown by farmers under contract to feed companies who provide the broilers and feed.

The attorney general rejected the efforts of the Teamsters Union to organize the broiler industry. "We certainly don't need Jimmy Hoffa injecting himself into this situation," he said. "I think the industry can solve its own problems."

Sorghums Available

WASHINGTON — The monthly Commodity Credit Corp. list of government commodities available for domestic use points out that, until further notice, CCC will redeem rights represented by pooled certificates under the 1961 feed grain program at market price at point of delivery, as determined by CCC.

CCC reserves the right to determine the time of delivery and the class, grade, quality and quantity of grain delivered in redemption of such rights. CCC also reserves the right to restrict the availability of grain sorghums for such redemption, at any location, whenever such action is deemed necessary.

The grain is available through the Evanston, Dallas, Kansas City, Minneapolis and Portland commodity offices.

July Outstandings of Trade and Bank Credit For Broilers Up in S.E.

ATLANTA—Both feed trade credit and bank loan outstandings for broiler production increased slightly during July in the six southeastern commercial broiler producing states served by the Federal Reserve Bank of Atlanta.

The bank's research department reports that trade credit outstandings in dealer accounts at a sample of feed manufacturing firms rose more than enough to offset declines in producer accounts. Outstandings in both dealer and producer accounts in July of this year were well above the amounts of a year earlier.

From July, 1960, to July, 1961, total outstandings to feed or other dealers showed a gain of 20%. The comparative increase in collections during the month was 5%.

To producers, the increase in total outstandings, comparing July of a year earlier to July of this year, was 21%. Collections on credit to producers showed an increase of 21%.

Outstandings of loans at selected district banks in July exceeded the level of a year earlier by 14%, principally because more funds had been advanced to feed dealers. Total new loans for broiler production made during July, 1961, exceeded repayments slightly. This gain occurred in dealer accounts; repayments by producers exceeded new loans to them.

Eastern States Has New Egg Branch

WEST SPRINGFIELD, MASS. — Eastern States Farmers Exchange has established a new egg marketing branch in Groton, Vt., Howard D. Johnson, director of marketing, reports. This becomes the sixth branch of the eastern cooperative's egg marketing department.

"For some time, Vermont poultrymen have been marketing eggs through the Springfield, Mass., branch," Mr. Johnson said. "This provided a nucleus of incoming volume, and late this summer opportunity developed to sell eggs to two chain store sytems in up-state Vermont, thus creating the need for egg handling facilities north of the present Eastern States branches. A cement block building on Route 302 has been leased and it will be equipped to perform plant grading and cartoning services."

The start-up of operations will be under the direction of Howard Whelan, manager of the Eastern States egg marketing department. John Randall, manager of the Springfield branch, will supervise the sales and service of the new branch. Its resident manager is David Paye, who has had experience in both egg marketing services and service center operations.

"Eastern States is looking forward to expansion of its services to Vermont poultrymen and others interested in the state's poultry industry," Mr. Whelan said.

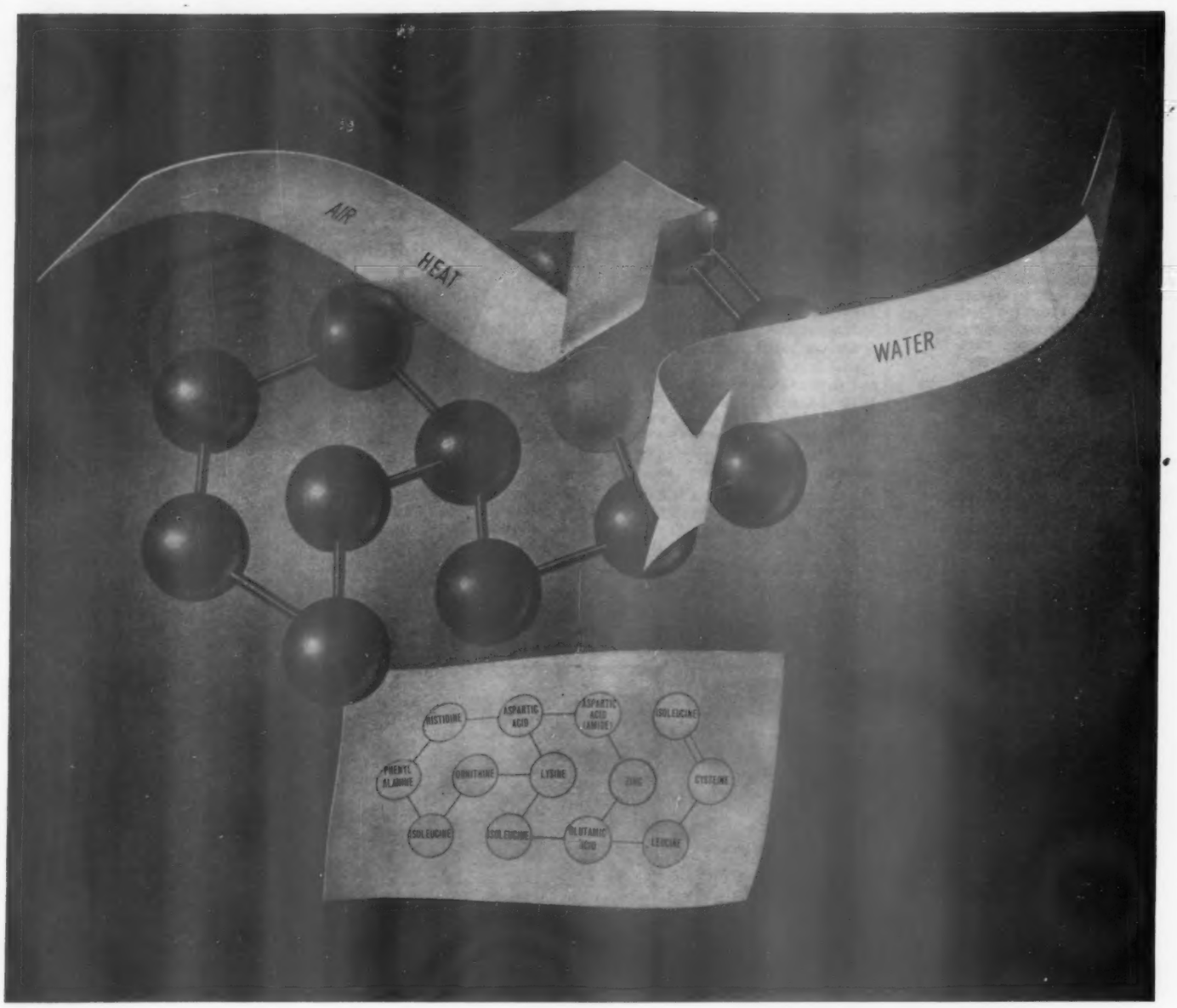
ADM Strike Ends

MINNEAPOLIS — A strike that had closed Archer-Daniels-Midland Co.'s Twin Cities (Minneapolis-St. Paul) terminal elevators since June 26, ended Sept. 1 when employees returned to their jobs after accepting a new contract.

Terms of the settlement between ADM and United Mine Workers District 50, Local 12106, included a 7½¢ hourly wage increase for the 145 employees at the eight elevators.

FEED MILL OPENS

MARTIN, S.D. — Mueller's Feed Mill, located east of Martin Livestock Sales, opened here recently.



CSC adds zinc to bacitracin and builds a new, stable molecular structure: Baciferm

From CSC research comes the answer to the search for full bacitracin potency. The answer: Baciferm®—a zinc-bacitracin compound, an antibiotic with a totally new and stable molecular structure.

How did CSC research build this new molecule? First, CSC scientists discovered the weak spot in bacitracin's molecular structure. Then, through testing and experimentation, they "hooked" various metallic salts onto this "weak link" to see if they could stabilize it. Many salts were tried — manganese, iron, tin. Then zinc, and it proved to be the answer. Baciferm — a zinc bacitracin — was perfected!

The benefits of this scientific breakthrough. With this unique molecular structure, Baciferm displays unusual stability, retains its full measure of antibiotic activity. In fact, tests have shown that it keeps its full strength for years. Feed processors using Baciferm can therefore forget about any potency loss during the time interval between manufacturing, shipping, mixing, selling, and the actual date of feeding. No antibiotic loss during pelleting with Baciferm.

In short, feed processors can use Baciferm with confidence. It is a sound, stable antibiotic that can be counted on every time.

Would you like more information? Write: Animal Nutrition Department, Commercial Solvents Corporation, 260 Madison Ave., New York 16, N. Y. In Mexico: Comsolmex, S.A., Mexico 7, D.F.

COMMERCIAL SOLVENTS CORPORATION CSC

Names in the News

Leonard Chittenden | Russell N. Aves | Dr. John Matsushima | Duane Klaustermeier

CARGILL NAMES TWO GRAIN MEN TOP MERCHANTS — Two grain merchants with Cargill, Inc., Minneapolis, Erhart H. Becker in Moorhead, Minn., and Robert E. Menze, Portland, Ore., have been named "merchants of the year" by the company's nationwide grain division.

Walter B. Saunders, vice president, division head, said in announcing the selections that for four consecutive years, Mr. Becker, manager of Cargill's Moorhead branch office, had increased the office's volume and income in comparison to operating costs.

Mr. Saunders cited Mr. Menze for "the excellent job you have done in your capacity as export manager of the Pacific Northwest region."

TOLEDO BOARD OF TRADE FILLS TRANSPORTATION POST— The appointment of John A. Bauer, St. Joseph, Mo., as transportation commissioner of the Toledo (Ohio) Board of Trade has been announced by Thomas B. Irish, president. Mr. Bauer succeeds Charles J. Kucera, commissioner 12 years, who is retiring.

Before taking the Toledo post, Mr. Bauer was traffic manager for Quaker Oats Co. at St. Joseph.

STOCKTON GRAIN EXCHANGE NAMES NEW DIRECTOR — Les Sperring has been appointed as a member of the Stockton (Cal.) Grain Exchange board of directors. He replaces Ivan Brown of E. D. Wilkinson Grain Co., who resigned earlier.

Mr. Sperring is the feed procurement manager of Nulaid Farmers Assn., San Leandro, Cal. He is reported to be well known to the grain industry in this area.

ALLIED MILLS NAMES FT. WAYNE PLANT MANAGER — Leonard A. Chittenden has been named plant manager of the Ft. Wayne, Ind., plant of Allied Mills, Inc., Chicago, it has been announced by F. H. Blough, vice president in charge of manufacturing.

Mr. Chittenden succeeds Joe E. Blough, who has been transferred to Guntersville, Ala., preparatory to taking over management of operations there in the near future.

Mr. Chittenden came with Allied Mills at Omaha in 1957, as purchasing agent, later serving as office manager and plant manager.

WHITMOYER LABS APPOINTS RUSSELL N. AVES — The appointment of Russell N. Aves as Illinois sales representative for Whitmoyer pharmaceutical and nutritional products has been announced by Henry C. Suppan, sales manager for Whitmoyer Laboratories, Inc., Myerstown, Pa.

Mr. Suppan stated that Mr. Aves has an excellent background of both training and experience in working with the poultry, livestock and feed industries. This experience includes sales work, service as a railroad agricultural agent, and multiple farm management.

DR. JOHN MATSUSHIMA TO JOIN COLORADO STATE — Dr. John K. Matsushima, associate professor of animal husbandry at the University of Nebraska College of Agriculture, Lincoln, will join Colorado State University at Ft. Collins in October as a nutrition researcher.

Dr. Matsushima, who is well known for his research in beef cattle nutrition, received his B.S. and M.S. degrees at Colorado State and his Ph.D. degree from the University of Minnesota. He was also a member of the biochemistry and animal husbandry staffs at Minnesota.

GLENCOE MILLS POST TO DUANE KLAUSTERMEIER — Glencoe (Minn.) Mills, Inc., has announced the appointment of Duane F. Klaustermeier to its staff. He will assume responsibility for quality control and nutrition development of Glencoe Quality Feeds.

Prior to his graduation from the University of Minnesota in June, Mr. Klaustermeier worked on special assignments in poultry nutrition and feed advertising.

F. H. PEAVEY ADDS TO EXECUTIVE GROUP, BOARD—Additions to the executive committee and to the board of directors of F. H. Peavey & Co., Minneapolis, have been announced by F. Peavey Heffelfinger, chairman of the board.

F. H. Corrigan, now a company director and vice president and director of terminal operations, was elected to the executive committee.

C. B. Green, Duluth, Minn., vice president and general manager of Globe Elevators division, was elected a director.

L. J. Carlin was named an honorary director. He was formerly head of the Peavey Elevators division and served as a director and member of the executive committee.

Peavey also announced a number of other changes in officer assignments. They include:

G. A. D. Smith, vice president and controller and a director, was elected vice president — administration for the company;

G. G. Giebink, vice president and treasurer and a director, was elected vice president—finance and treasurer;

R. F. Kennedy, vice president and director of personnel and public re-

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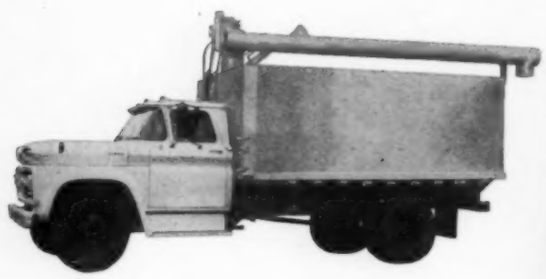

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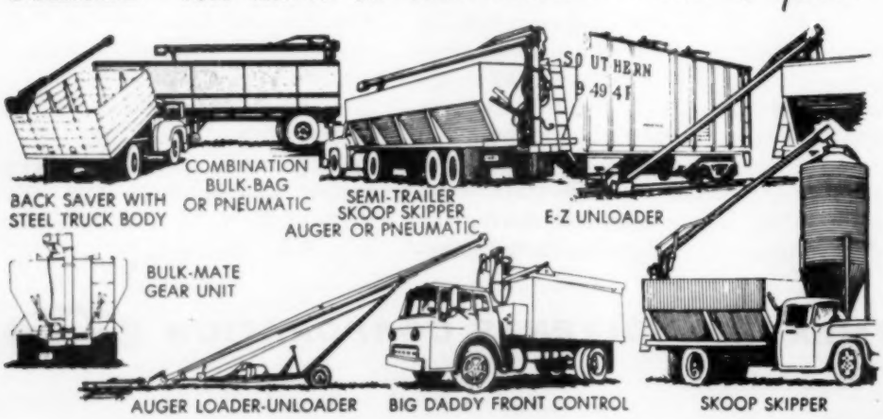

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lations, was elected vice president—public affairs;

J. K. de Werff, assistant secretary and assistant general counsel, was elected vice president and general counsel—operations;

K. C. van den Berg, assistant secretary and assistant general counsel, was elected vice president—tax and corporate counsel;

L. E. Anquist, assistant treasurer, assistant secretary and assistant controller, was elected controller in addition to his duties as assistant treasurer and assistant secretary;

G. T. Leech, secretary, was elected assistant treasurer in addition to his duties as secretary;

S. C. Ross was elected assistant secretary of the Globe Elevators division;

J. A. Hunter, assistant secretary of American Elevator & Grain division, was elected assistant general manager of the division in addition to his duties as assistant secretary;

V. J. Thielen was elected assistant secretary of the American Elevator & Grain division;

S. B. Rodning, manager of grocery products of Russell Miller-King Midas Mills division, was elected vice president—family sales of the division;

H. G. Deaver, Jr., assistant secretary wheat department of Russell Miller-King Midas Mills, was elected vice president—wheat department of the division;

G. P. Marron, acting manager of the Dallas Mill of the Russell Miller-King Midas Mills division, was elected vice president—Dallas Mill of the division;

J. S. Ferraro, formerly administrative in controller's department, was appointed to chief accountant, F. H. Peavey & Co.

RAYMOND BAG APPOINTS FRANK JONES—Raymond Bag Corp., Middletown, Ohio, has announced the appointment of Frank Jones to the company sales staff.

Mr. Jones has spent many years in the multiwall bag industry and was formerly associated with the First Packaging Corp. where he directed sales activities in Louisiana, Mississippi and parts of Arkansas. He will make his headquarters in Monroe, La.

PROTEIN BLENDERS ASSIGNS THREE—New assignments for three representatives of Protein Blenders, Inc., Iowa City, Iowa, have been announced by Lloyd T. Cashman, president.

Russell Thoren

Russell Thoren, Grinnell, Iowa, who joined Protein Blenders sales organization in 1957, has been promoted to a territory supervisor position. Donald Dickel, Kalona, Iowa, and Kenneth Peterson, Martelle, Iowa, who have been in the sales department of Protein Blenders since 1960, were assigned to larger territories in southeastern and northeastern Iowa.

Donald Dickel Kenneth Peterson

ROBERT KIVETT JOINS HERRING SALES—Robert Kivett has joined the Herring Sales Co., North Kansas City, Wayne M. Herring, president of the firm, announced.

Mr. Kivett will handle bulk millfeeds and animal by-products for the company. Well known in the feed ingredient business in the Southwest, Mr. Kivett recently was associated with Gilbert Jackson Co., Kansas City.

HAROLD PORTER FILLS OHIO PLANT INDUSTRY POST—Harold L. Porter has been appointed chief of the division of plant industry, Ohio Department of Agriculture, Reynoldsburg, Ohio, according to Robert H. Terhune, department director. Mr. Porter succeeds John W. Baringer, who retired March 31.

Holder of B.S. and M.S. degrees from Ohio State University, Mr. Porter joined the Ohio Department of Agriculture in 1939 as an inspector in the insect and plant disease control section. In 1941, he became assistant section head, and was named specialist in charge of the section in 1943.

ARKANSAS POULTRY FEDERATION PERSONNEL CHANGE—John M. Haid has resigned his position as general manager of the Arkansas Poultry Federation, Little Rock, Ark., and has become associ-

(Turn to NAMES, page 102)

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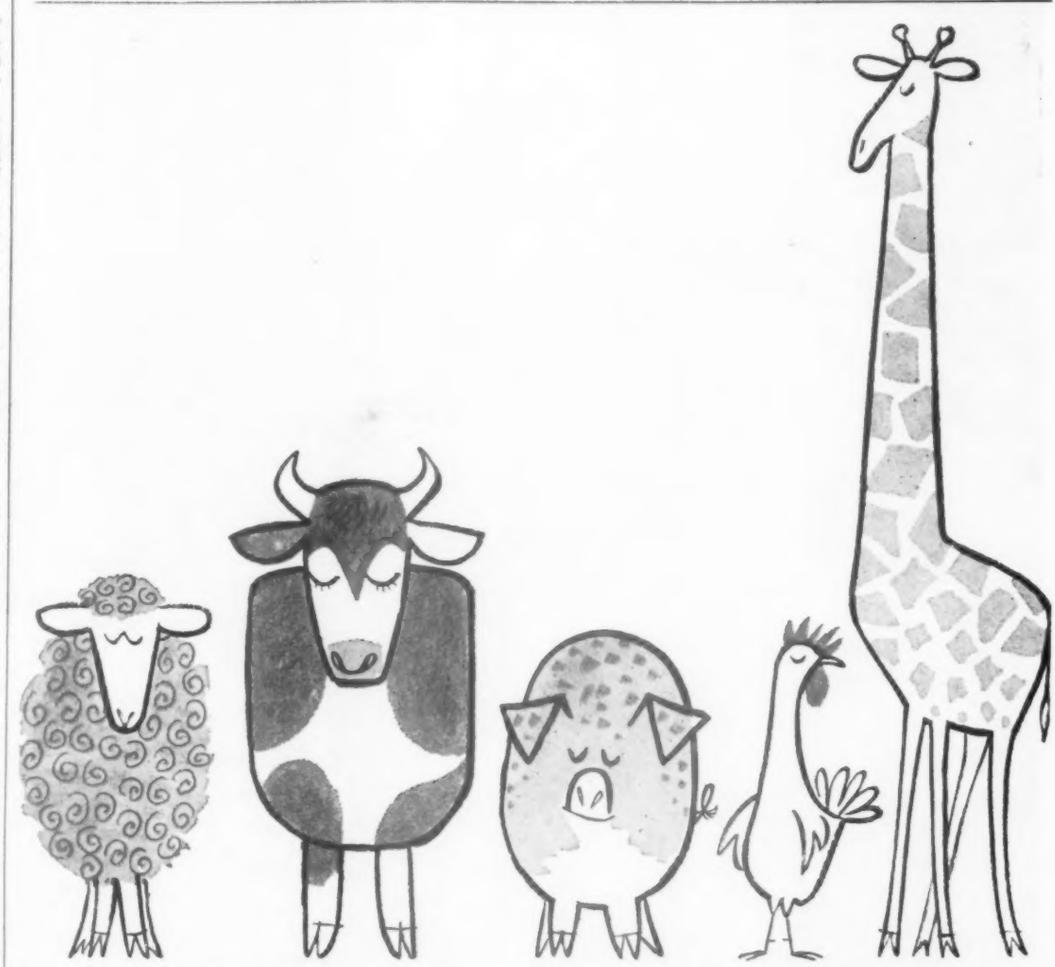

THERE'S A MORTON MIXING SALT FOR EVERY FEEDING PROBLEM!

(WELL, ALMOST EVERY PROBLEM!) The full line of Morton Trace-Mineralized Mixing Salts includes specially formulated salts for poultry, swine, cattle and sheep. (None for giraffes, however. Maybe next year, if the market expands . . .)

New Multi-Purpose Mixing Salt contains six specially selected trace minerals for cattle, sheep and mature hogs. Like all Morton Mixing Salt, it contains a new and improved anti-segregation agent, and its trace mineral compound is water insoluble.

New Poultry Mixing Salt is the most flexible product of its kind on the market. Containing higher levels of essential trace minerals for poultry, it can be used in varying amounts for optimum results.

New Swine Mixing Salt for growing swine contains a high level of zinc to promote maximum growth and aid in the prevention of parakeratosis.

Morton also offers Iodized Mixing Salt and Special Mixing Salt. All five Mixing Salts are backed by Morton research and quality control, and all are available anywhere in the country.

For more information, ask your Morton Representative, or write:

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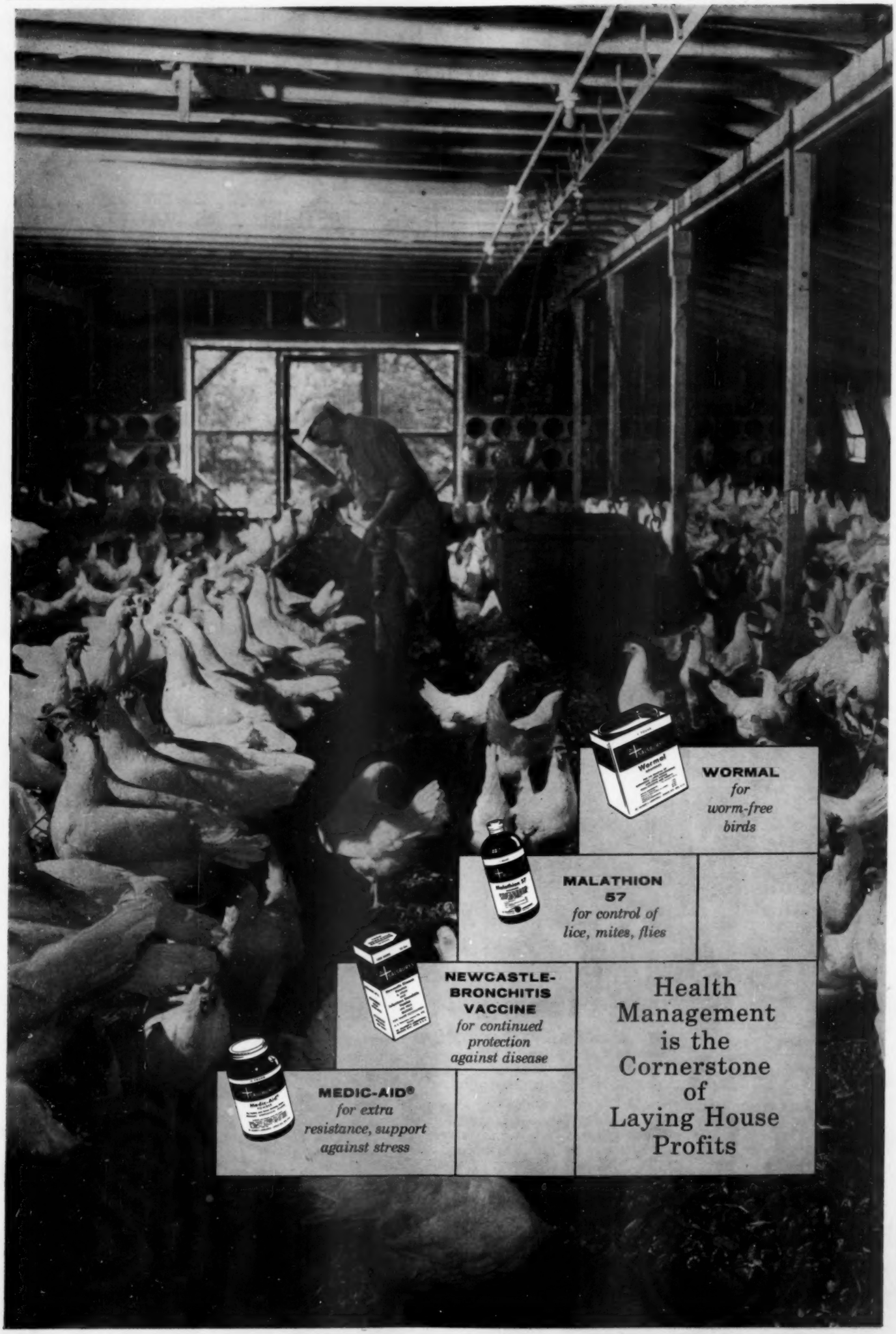
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for continued protection against disease
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Health Management is the Cornerstone of Laying House Profits

Dr. Salsbury's

Laying House Cornerstone Plan

IT JUST MAKES GOOD ECONOMIC SENSE TO SELL YOUR CUSTOMERS ON PUTTING PULLETS INTO THE LAYING HOUSE IN GOOD HEALTH!

Here—described on these pages—is a prevention program for egg producers that can lead to higher production and profits. It consists of four Dr. Salsbury's cornerstone products—a "package" that multiplies your sales per customer. Dr. Salsbury's Laying House Cornerstone Plan makes good economic sense for you in two important ways: First, you sow the seeds of customer satisfaction by providing a health management program to help bring well-nourished pullets to their highest point of bred-in production. Second, you enjoy greater sales and a flock of profits through increased volume—not only in Dr. Salsbury's products, but in increased traffic through your place that means more total business for you. Make this health management program one of the cornerstones of your business this season. Your customers will get more eggs—and you'll get more sales.

Dr. Salsbury's 4 Cornerstone Products

. . . help your replacement-flock customers now as they prepare pullets for egg production

1. **WORMAL** Your customers know of Wormal's superior worming ability (through Dr. Salsbury's consistent advertising and by experience). It eliminates nearly 100% of tapeworms, large roundworms, cecal worms. Worm-free layers get more good out of their feed—they are helped to produce up to their bred-in capacity. Wormal Granules, in the handy 1-lb. package (enough for 250 birds), is easy to use—easy for you to inventory. Recommend Wormal before housing, at housing time, or shortly after housing.

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3. **NEWCASTLE-BRONCHITIS VACCINE** Pullets need a booster vaccination against Newcastle disease and infectious bronchitis before they start to lay. Dr. Salsbury's **Wavac®**, the famous drinking-water vaccine for poultry, has been a standard for years. Or, SoluVac—new, instantly soluble vaccine—may be used. Both are available for use against both Newcastle and bronchitis (combined) or in single virus form for Newcastle. 500- and 1,000-dose sizes.

4. **MEDIC-AID®** High-producing layers will need all the extra vigor and disease resistance which Medic-Aid can give them. Medic-Aid in the drinking water fights stress, aids against CRD and bluecomb. It stimulates the appetite, helps birds get more out of their feed. Medic-Aid contains 9 vitamins and the antibiotics penicillin and streptomycin. Available in "Twin Pack" (two ½-lb. jars), 2-lb. can, or carton of fifty 8-oz. pouches.

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...multiply your profits! Look at these advantages...

More customer satisfaction because flock is better protected. Because your customers produce more eggs, they buy more. More sales volume—you sell more Dr. Salsbury products per customer. More business in other items because store traffic is increased.

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JOE BROOKS

BY AL P. NELSON

It Pays to Keep Accurate Records

Heavy-set Bill Murdoch ambled into the farm store of the Brooks Feed Mill. "Hi, Milt," he called to Milt Peters. "I'm waitin' with a load of corn for grind and mix on hog feed, and I want to talk to you about it. But I'm thirsty."

He walked toward the coffee urn and began drawing himself a cup of the steaming fluid. He put in cream and sugar and then reached for a sugared doughnut.

"I know I shouldn't have one," he sighed, "but I like them. And you know, Milt, a fat fellow like me is at a disadvantage on a farm. I walk into the dairy barn and see those Holsteins eatin' and eatin' all the time, and I get hungry, too. I walk into the chicken house and them Leghorn layers are peckin' away at food. Then I walk over to the hog lot and man how those porkers crunch away."

Milt chuckled. "I know what you mean, Bill. I'm getting a little paunch myself. Too many milk shakes. But my best redhead likes them and I don't want to be lonesome while she sips."

Bill grinned. "Redhead, eh? Say, Milt, is it true what they say, that you have a datebook filled with phone numbers of those dillies?"

"Well," blushed Milt, "I've got a lot of phone numbers of redheads. But they are not all dillies. I've found that out!"

Mr. Murdoch roared until his black stubble was almost submerged by his red skin. "I'll bet you did. I'll just bet you did, Milt. Man, are you livin', eh?"

Milt chuckled. "Well, maybe," he said. "I sure don't sit home many nights playin' solitaire."

"Solitaire!" echoed Mr. Murdoch. "Man, I don't have time to play that game. A man can get awfully busy on a farm. Always lots of stuff coming up you don't expect." He moved to the doughnut tray. "Now don't look—I'm takin' another doughnut, Milt. Dang it, they're good."

Mr. Murdoch took a bite from the fresh doughnut and moved back toward Milt. "Say, my pigs are about ready for some 14%, aren't they?"

"Just a minute," Milt said. "I'll look it up."

He consulted a card index file on the desk, flipped over some cards, then pulled one out. "Our serviceman weighed your pigs a week ago. The weight was 55 lb. Yes, 14% protein is scheduled now. But there's a note here that says you used 15% pig developer at this weight for your last batch. Want to try it now?"

Mr. Murdoch swallowed some coffee. "Yes, now I remember. Joe did sell me on that. And the pigs liked it and gained. Sure, let's give them 15% developer now."

Value of Feed Records

Mr. Murdoch took another swallow of coffee. "Say, them cards are mighty handy, Milt. Saves me from keeping records. You fellows are on the ball."

"We've got to be," Milt said. "Customers ask us about these records every day."

"Lots of work with them," Mr. Murdoch said. "You don't have on there how much money I owe the bank, do you?"

Milt chuckled. "No, but we can get that just by phoning the bank, if we have to. In your case, we never had to. We've got lots of information on these cards, except maybe the number of times you wink at good lookin' widows."

Mr. Murdoch assumed a look of mock solemnity. "Durn you, Milt. You bring up the most interestin' topics of conversation. You shouldn't do that. Don't you know a farmer has to keep his mind on farmin' these days?"

"I stand corrected," Milt said soberly. "I won't make the same mistake again."

Mr. Murdoch grinned, rolling his eyes. "Well, off the record, just this once—know any new good lookin' widows that have moved into the area lately?"

Both men laughed heartily. "Well, no new ones yet," Milt said. "Shall I send a note to you when one does come?"

"Oh, heavens no," blurted Mr. Murdoch. "Miranda would kill me if she got the note before I did."

He leaned over the counter and stared right into Milt's eyes. "Of course," he said, "we're just kiddin' about all this stuff, aren't we?"

"Well, of course we are," Milt said

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Champion now controls the granulation, or particle size, from coarsely-cracked grains and granulated ear corn, to finely-ground hog and poultry feeds.

Champion Mobile Units provide substantial profits on service charges alone.

*Optional equipment at slight additional cost

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STARTER PREMIX For CHICKENS

7 TAILORMADE PREMIXES

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MYZON PREMIXES

1	**Booster for Swine**	Increases vitamin and antibiotic content of your regular rations.
2	**Medicated Premix for Swine**	Adds valuable combination of antibiotics, vitamins and minerals for growing pigs. Improves feed efficiency, speeds growth.
3	**Premix for Dairy Cattle**	Gives high level of Vitamin D plus quantities of Vitamin A and trace minerals to completely fortify your rations.
4	**Premix for Beef Cattle**	Improves growth factor of beef rations with high level Vitamin A, Vitamin D and minerals.
5	**Medicated Starter Premix for Chickens**	Simplifies the formulation of starter rations, adds antibiotic, vitamins and minerals.
6	**Medicated Layer Premix for Chickens**	Improves vitamin, mineral and antibiotic level of layer rations, meets all the needs of commercial flocks.
7	**Medicated Booster for Chickens**	Contains antibiotics, vitamins and minerals to increase egg production, hatchability and reduce chick mortality.

MYZON SERVICES

1 ***Complete technical laboratory is available to serve Myzon Premix dealers—analyzes grain samples, evaluates local livestock conditions, prepares specific mixing formulas.***

2 Assistance of Laboratory of Vitamin Technology and Charles Hubbell, internationally known consultant on animal nutrition.

3 Specific agreed territories for franchised dealers.

4 A complete line of scientifically formulated premixes and boosters for all kinds of livestock. Myzon premixes plus laboratory services let you customize every feed order.

5 Premixes formulated and packed in individual bags to facilitate mixing.

6 Assay formulations for accuracy and quality.

7 Help in registering feeds and providing tags at minimum cost.

8 Assured continuation of research and development by Myzon Laboratories to keep you a leader in your area.

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☐ Please send without obligation new dealer booklet TOMORROW'S FEEDS—TODAY.

☐ Please contact me about new dealer opportunities in my area.

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ADDRESS_____

TOWN_____ COUNTY_____ STATE_____

MY PRESENT BUSINESS IS_____
(Feed dealer, custom grinder, grain elevator, other)

seriously. "We have to make conversation. We have to pass the time of day. That's being polite. We're not squares."

And strangely enough, at this very moment, Mr. Murdoch winked at Milt and Milt winked at him, and both began to laugh.

At this point, Joe Brooks walked in. He had just come from a chamber meeting.

"What's the joke, boys?" he asked.

"Oh, just a funny joke about a feed dealer," Bill Murdoch chuckled. "But, seriously, Joe, I do want to compliment you men upon your records. You know, I would have forgotten I used 15% pig developer for my pigs at 55 lb., like I did the last batch, if Milt hadn't found it on my record card and told me about it."

Joe beamed. "Oh, we keep very accurate records on every customer's feed orders, Mr. Murdoch. That helps us to help you and to help ourselves. Then no matter who orders the feed —a customer, his wife or a son or daughter—we can look up our records and see what feed to send out. Saves time and confusion, too."

Mr. Murdoch shook his head. "Yes, business is sure gettin' complicated now, Joe. Records, records, records. You must have them for your profit and loss figuring, and for the government, too. Why last January when I made out my income tax report, I asked you for my purchases here the last year, and my figures were $760 less than yours. If I hadn't called you, I would have had to pay more tax."

"Well, we'll protect your interest all we can," Joe promised. "And we'll even help to show you how to keep accurate records."

Mr. Murdoch looked surprised. "You will? Say, if I get about 10 neighbors together some night at my home, will you come and give us a talk on records, not feed?"

Joe smiled. "I certainly will. You line up the date. I'll be there."

Connecticut Broiler Day Set for Sept. 14

STORRS, CONN. — Connecticut poultrymen will gather at the University of Connecticut here Sept. 14 for their annual Broiler Day program. About 150 are expected to attend. The event will feature three speakers.

Harvey Taylor, broiler specialist from Arbor Acres Farm, Glastonbury, Conn., will offer tips on how to stay in the broiler business. He will discuss management factors that have proven successful to broiler operations across the country and will answer questions about regional management differences.

Frank D. Reed, extension poultry marketing specialist at the University of Maine, Orono, will bring the group up to date on the competitive position of the New England broiler industry.

The third speaker will be Rep. Jack Frankel, Lebanon, Conn. He will tell what poultrymen can do to seek legislation that will strengthen the poultry industry.

The event is sponsored by the University of Connecticut's poultry science department, College of Agriculture and the Connecticut Poultry Assn.

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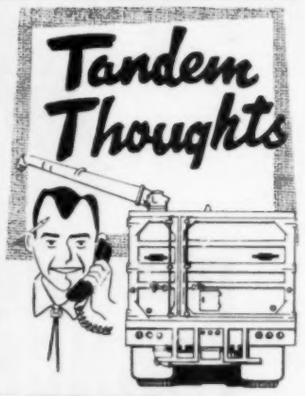

BY ROBERT MORITZ
WILSON TRAILER COMPANY

The Great Debate, Sack vs. Bulk

SIOUX CITY—Many grain and feed mill operators are questioning whether or not they should specialize in "bulk" or "sack" deliveries. Much equipment in this specialization age limits itself to doing a good job of one or the other, but will not adapt itself to both.

The WILSON TRAILER COMPANY, entered this debate when we introduced our AUGER-BELT Grain Trailer last year. We are trailer manufacturers and have built quality grain and livestock trailers for years. When our customers asked us to build a trailer that incorporated a full length conveyor belt for loading and unloading purposes, our engineers solved the problem and revolutionized the self-unloading equipment business. We discovered a conveyor belt that is almost trouble free and can be used for unloading boxed or sacked material as well as bulk. With a reversible drive, it can be used to assist loading operations also.

Yes, this 37 foot trailer with its 1200 cubic foot capacity will do wonders with many types of materials . . . either bulk or sacked. We added the 20 foot elevating auger to the original conveyor belt trailer and found that this added versatility for over the highway bulk deliveries. In fact, with interior dividers, both sacked and bulk material can be hauled and handled on the same run.

As far as we are concerned, there is no "Sack vs. Bulk" debate! You handle either with a WILSON Auger-Belt Grain Trailer! See us in booth 13 at the Kansas City Feed Production School.

For further information write: Bob Moritz, Wilson Trailer Company, 2400 Leech Avenue, Sioux City, Iowa.

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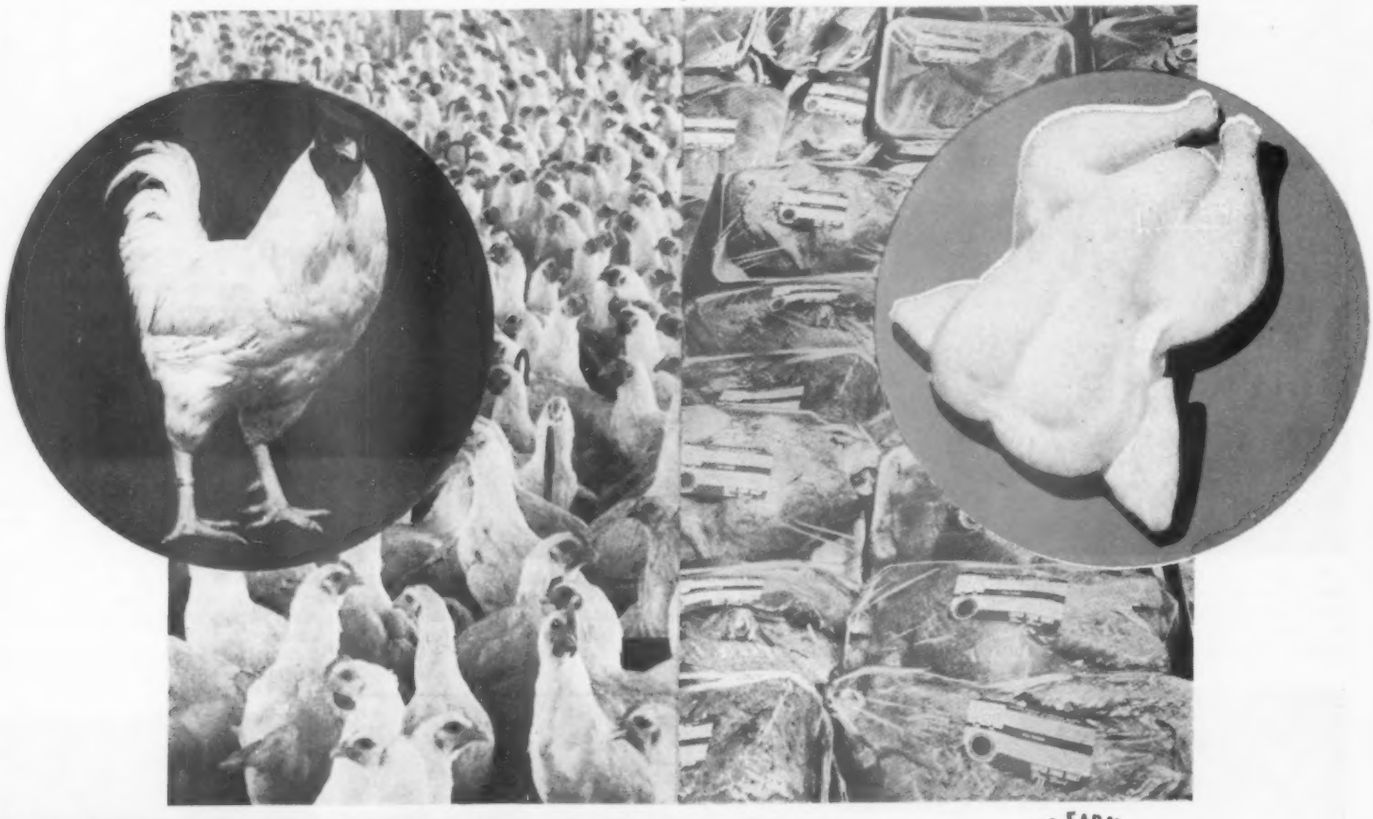

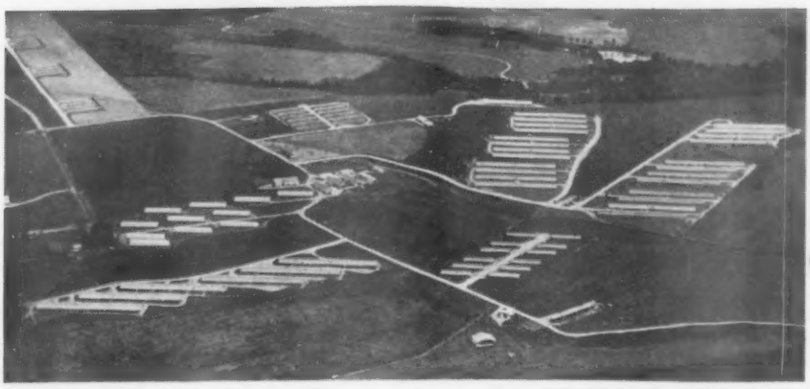

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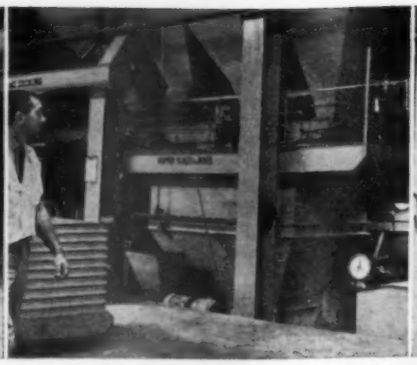
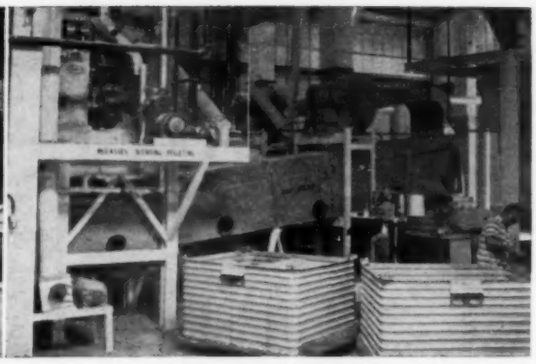




Combination of these three pictures traces production flow in the new Kent Feeds plant at Waterloo, Iowa. The first picture in the series shows Don Funk (left), Kent Feeds, Inc., assistant nutritionist, and Robert Reel, quality control supervisor for the Waterloo plant, inside semi-circle of micro-ingredient bins in "Micro-Matic" premix blending area. Seen in the second photo at main floor level is one of the plant's two 5,000-lb. Fairbanks-Morse hopper scales. Behind it is 50 h.p. Jacobson hammermill and below it is the plant's main feed mixer, a 2-ton horizontal Marion. One of two 100 h.p. California pellet mills positioned on platform above Wenger horizontal coolers can be seen at left in third photo. At far right on main floor level are paired Davis shakers and California rollers and Bemis automatic scale and bagging machine.

New Kent Plant Supplies 125 Dealers in Iowa

By Fred E. Tunks
Feedstuffs News Editor

Much like the continuous, horizontal flow of an auto assembly line, "parts" enter one end of the production route at the new Kent Feeds, Inc., plant near Waterloo, Iowa, and the finished products exit at the other.

It would take the production-oriented feed man but a minute to trace the flow of the 12-tons-an-hour "Feed-Matic" plant through the receiving, grinding, proportioning, premixing, mixing, pelleting, bagging and load-out stages in one sweeping look from a single position. Except for the plant's 20 ingredient bins, bins for the pellet mills and bagger and 9 load-out bins overhead, all the equipment the plant's designers wrapped up in this neat package can be seen by stepping back 30 ft. or so from the production line into the adjoining bagged feeds warehouse. There they are, all in a row: The hammermill; the premix bins, scales and hoppers; the paired main batch scales and hoppers; the 2-ton horizontal batch mixer; the paired pellet mills and their horizontal coolers, and the automatic bagging machine. Of course, all of the machinery is not on a single level. Below the main concrete floor, but easily accessible from all production points, are some of the premix equipment and the 2-ton mixer. On a steel platform head-high above the main floor and over the pellet coolers are the plant's two pellet mills.

The premixing, mixing, pelleting and bagging areas are clearly defined by different colors of paint covering the machinery and the building and platform supports.

Premixing System

Of special interest to the visiting production man would be the "Micro-Matic" premixing system. Through a series of scales, hoppers and mixers, hand-proportioned micro-ingredients are premixed with a carrier before they are discharged automatically into the main feed mixing system.

The plant's design is the work of Dick Halpin, Kent engineer, and his assistant, C. J. Studnicka, both headquartered at Kent Feeds' home office in Muscatine, Iowa. Into this new Waterloo plant, Kent's third, went many of the engineers' best and latest ideas. John G. Miller, Waterloo, a general contractor, was the builder of the plant structure. The plant's office and quality control space, production area and warehouse are housed in Butler steel. Most of the steel storage bins were custom-fabricated.

Although the Waterloo plant's production capacity—250 tons in three 8-hour shifts—is about the same as Kent's plant at Sioux City, Iowa, it is of different design. Kent's plant at its Muscatine headquarters has a capacity of about three times that of either of the other two.

125 Dealers

Kent feeds produced at the Waterloo plant—managed by Rich Severson, a Kent employee since his graduation from Iowa State University, Ames, about six years ago—are sold through 125 dealers in northeast Iowa. Many of these dealers have custom mills—so the Waterloo plant turns out a high volume of concentrates as well as complete feeds. These dealers are served by eight salesmen.

Mr. Severson reported that about 70% of the feed produced in the Waterloo plant is bagged. Of the bagged and bulk total, about 85% is in either pellet or crumble form.

Nearly 180 different feeds will be produced in the plant when full production is attained. The plant serves a rich agricultural area in which swine, beef cattle, dairy cattle, layers, fryers and turkeys are fed.

Mr. Severson heads a plant staff and crew of about 30 persons, many of whom were transferred from Kent's home office and plant at Muscatine.

Robert Froehner is production superintendent; Robert Reel, quality

Coordination of ingredient purchasing and feed production is accomplished by the Waterloo plant's manager with semi-weekly sessions in his office. Rich Severson is shown in the first photo consulting (left to right): Robert Froehner, production superintendent; Edward Ahlf, office manager, and Rex Schafer, order office supervisor. View of plant's office area through customers' window is shown in second photo. Clerical assistants shown with Mr. Ahlf and Mr. Schafer are Mrs. Irene Moore and Mrs. Jo Ann Doyen.

Quality control is an important phase of production in Kent Feeds' Waterloo, Iowa, plant. The first photo shows Dr. Charles Lewis (left), nutritionist from Kent's home office at Muscatine, Iowa, and Robert Froehner, Waterloo plant production superintendent, checking micro-ingredient samples in premix blending area. Behind them within semi-circle of premix ingredient bins is Rich Severson, Waterloo plant manager. In second photo, Robert Reel (looking into microscope), quality control supervisor, and Mr. Severson analyze ingredient samples in quality control laboratory, which is at the rear of the office building and separated from the production center.

Charging of each 2-ton batch of feed with a batch of premix is controlled from apparatus checked here by Don Funk (left), Kent Feeds, Inc., assistant nutritionist, and Robert Reel, Waterloo plant quality control supervisor.

control supervisor, and Leo Weichart, maintenance supervisor.

In the office at the front of the plant between the "in" and "out" sides are Edward Ahlf, office manager, and Rex Schafer, order office supervisor, and clerical assistants, Mrs. Irene Moore and Mrs. Jo Ann Doyen.

Twice-Weekly Sessions

Each Tuesday and Thursday morning, Manager Severson meets in his office with the production superintendent, the office manager and the order office supervisor to estimate future feed sales and to plan purchasing and scheduling of incoming ingredients. Feeds are repriced each Saturday.

At the rear of the office building, which is separated from the production center, are Mr. Froehner's office and the quality control laboratory. While Mr. Reel, as quality control supervisor, is directly responsible for this phase of formulation and production, he is backed by Kent's nutritionist, Dr. Charles Lewis, and assistant nutritionist, Don Funk, who are headquartered at Muscatine.

Open House for Dealers

G. A. Kent, founder and president of Kent Feeds, Inc., and S. G. Stein, chairman of the board, were among the company's officials who attended an open house at the new Waterloo plant for its 125 dealers and members of their families. Total attendance was near 1,000 persons.

During the dedication ceremony, Pat Touchae, secretary of the Waterloo Chamber of Commerce, welcomed Kent Feeds and its dealers to the Waterloo area, and Mr. Kent expressed the feed firm's appreciation for the cooperation and help extended toward establishment of the plant by the chamber and by other Waterloo organizations.

The following explanation traces the flow of ingredients and mixed feeds through the Waterloo plant's production facilities:

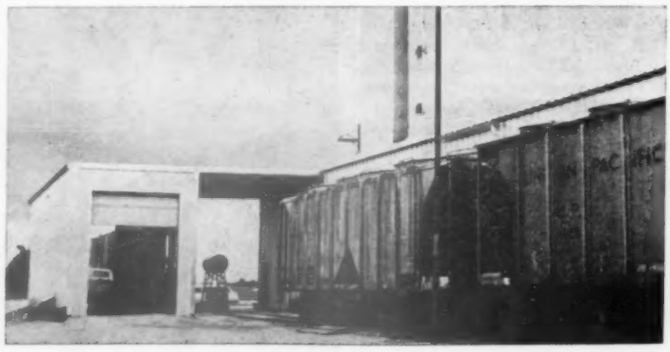
RECEIVING—The new Kent mill is ideally located for receiving ingredients by truck and rail car. It stands in a new industrial development area inside a "Y" formed by the intersection of state highway 57 and U.S. highway 20, and it's just a short spur track away from one of Illinois Central Railroad's main lines. Also handy is Waterloo's airport, less than a mile away. Manager Severson doesn't receive any ingredients by air, but nearness of the airport is an asset for transportation of Kent personnel between Muscatine headquarters and Waterloo and for representatives of suppliers who serve the Waterloo mill.

The covered receiving area is divided into two sections, one for trucks and the other for rail cars. One auger, which feeds ingredient eleva-

(Turn to **NEW PLANT**, page 92)

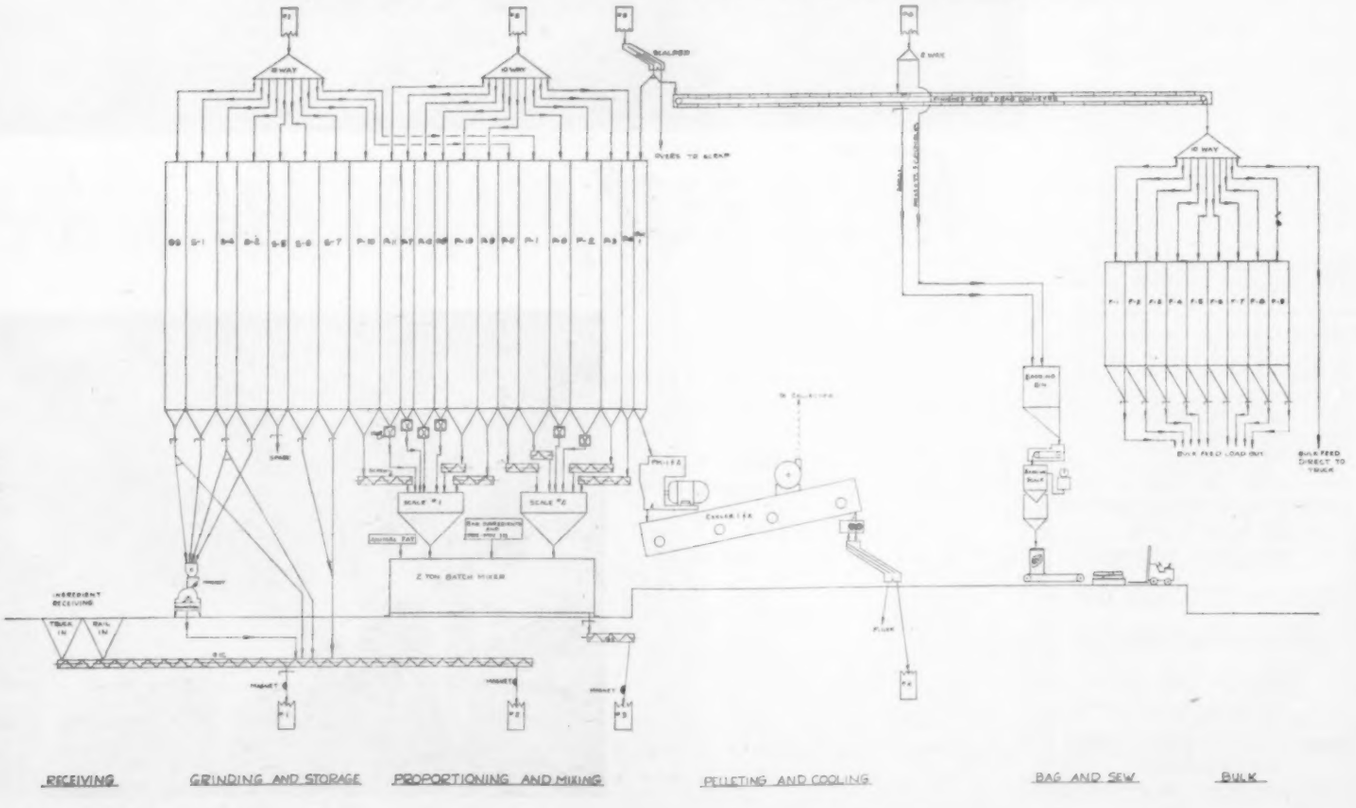
Warehouse behind production center of new Kent Feeds plant at Waterloo, Iowa, is big enough for storage of 700 tons of sacked feeds. Allis-Chalmers fork lift trucks are used to move the palleted sacked feeds about in the warehouse. In the first picture, Raymond Steward is shown at controls of fork lift. As shown in second photo, sacked feeds are loaded into trucks at end of warehouse opposite the end which is open to the manufacturing area.

New Kent Feeds, Inc., plant at Waterloo, Iowa, has horizontal production line stretching from ingredient-receiving side (right) across width of building behind office area in foreground to bulk load-out side (left). Storage facilities include 20 ingredient bins, 9 load-out bins and warehouse for storage of up to 700 tons of sacked feeds.



Covered receiving area of Kent Feeds plant at Waterloo, Iowa, is divided into two sections, one for trucks (left) and the other for rail cars. One auger, which serves both the truck and car pits, is capable of moving a 20-ton carload into the mill in about 40 minutes.

Simplified Flow Diagram of Kent Feeds Plant at Waterloo, Iowa



Cattle, Sheep Feeding Research Told at Kentucky Livestock Days

LEXINGTON, KY. — University of Kentucky research work on the feeding of beef cattle and sheep, ranging from experiments with Virginiamycin for beef cattle to feeding of an orally-active progestin to synchronize estrus in ewes, was reported at the recent annual Kentucky Livestock Field Days.

Among the other beef cattle topics discussed were: Vitamin A and trace minerals as supplements to fattening rations for beef steers, soybean hulls for wintering steers, effect of fat and urea on fattening rations, effect of stilbestrol implants during the preweaning period on postweaning feedlot performance of steers and heifers receiving stilbestrol orally, effect of level of wintering and diethylstilbestrol implants on steers receiving a limited feed of corn while grazing, trifluomeprazine and diethylstilbestrol for beef steers on pasture, and zinc bacitracin and diethylstilbestrol for beef steers being fattened in dry lot.

Also among the sheep topics was information on creep feeding and early weaning of lambs.

VITAMIN A, TRACE MINERALS, MIXED SUPPLEMENTS AND ALFALFA HAY AS SUPPLEMENTS TO FATTENING RATIONS FOR BEEF STEERS — This experiment was conducted to determine what effect vitamin A, trace minerals, mixed supplements, alfalfa hay and a combination of mixed supplements and hay would have on steers being fed a fattening ration of corn silage, ground shelled corn and soybean meal, according to Dr. N. W. Bradley.

He said that the increases in average daily gain over the control ration for the various treatments were as follows: Vitamin A, 0.22 lb.; trace minerals, 0.12 lb.; mixed supplement, 0.05 lb., and alfalfa hay, 0.23 lb.

Dr. Bradley said it was indicated that alfalfa hay in the combination of alfalfa hay and mixed supplement was responsible for an increase of 0.24 lb. daily while the mixed supplement in the combination was responsible for an increase of only 0.06 lb. daily. He indicated that there was little difference in dressing percentage between the different treatments, and carcass grades for the different treatments were identical.

He said that vitamin A and alfalfa hay improved the fattening ration considerably more than trace minerals or mixed supplements.

"Under the conditions of this trial, mixed supplement seemed to have no beneficial effect," according to Dr. Bradley. "Alfalfa hay, vitamin A and, to a lesser extent, trace minerals improved rate of gain. However, relative cost and availability of each should determine the extent to which they are used in fattening rations."

GROUND, FLAKED AND PELLETED SOYBEAN HULLS FOR WINTERING STEERS — Purpose of this experiment was to determine if steers could make satisfactory winter gains on either flaked, ground or pelleted soybean hulls supplemented with 3,600 I.U. of vitamin A per day and free choice minerals, according to the research team.

R. R. Garrigus, Dr. N. W. Bradley and Dr. G. E. Mitchell, Jr., reported that this trial demonstrates that a full feed of ground, flaked or pelleted soybean hulls will produce satisfactory stocker gains when supplemented with vitamin A. They noted that pelleting greatly increased the feeding value of ground soybean hulls (34%). Regrinding the pellets did not destroy improvement in feeding value. Flaking resulted in a smaller, nonsignificant improvement in gain (7%) and feed efficiency, the three research men said.

They commented, however, that soybean hulls from various sources vary considerably in composition and that this variation may have been partly responsible for the differences attributed to types of processing.

The vitamin A supplement was mixed with finely ground flakes, pellets and ground hulls and fed to the respective groups of calves at the rate of 0.5 lb. per head daily.

EFFECT OF FAT AND UREA ON FATTENING RATIONS FOR BEEF STEERS—Bernard Jones, Dr. N. W. Bradley and R. B. Grainger said this study was undertaken as a part of the constant search for beef cattle fattening rations which are inexpensive, palatable and adequate in essential nutrients.

They reported the following conclusions:

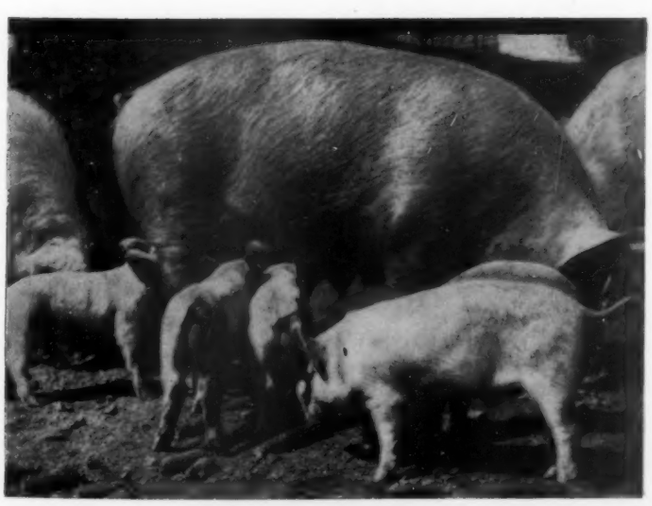
(1) Fat will effectively replace corn when added to fattening rations for beef steers at a level of 5% of the total ration but will not improve rate of gain or feed efficiency.

(2) Urea will effectively replace soybean oil meal in complete pelleted fattening rations for beef steers but will not improve rate of gain or feed efficiency.

(3) A combination of fat and urea will not effectively replace corn and soybean oil meal in fattening rations for beef steers. Levels of calcium or lysine used in this experiment did not seem to improve the complete steer ration containing both fat and urea.

EFFECT OF STILBESTROL IMPLANTS DURING THE PREWEANING PERIOD ON POSTWEANING FEEDLOT PERFORMANCE OF STEERS AND HEIFERS RECEIVING STILBESTROL ORAL-

Which test proves the value



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LY—Dr. N. W. Bradley and Dr. W. P. Garrigus report their study data suggest the preweaning stilbestrol implants are not detrimental to subsequent feedlot performance of steers but may affect feedlot gain of heifers. "However," they pointed out, "the data are too limited to permit definite conclusions, and additional trials are in progress."

In the test, both implanted steers and heifers gained faster than the control calves during the 140 days prior to weaning, the two Kentucky research men said.

They said, "The average increase in preweaning gain resulting from stilbestrol implants was 32 lb. for steer calves and 21 lb. for heifer calves. During the postweaning phase when stilbestrol was fed to all the calves, previously implanted steers gained faster than control steers, while control heifers gained faster than heifers which received preweaning implants. When the results of both phases are combined, implanted steers gained 55 lb. more than the un-implanted steers, but implanted heifers gained 13 lb. less than heifers which received preweaning implants. As would be expected, heifer carcasses had more outside fat and slightly more marbling but did not grade higher. Preweaning stilbestrol implants had ittle influence on carcass data."

EFFECT OF LEVEL OF WINTERING AND DIETHYLSTILBESTROL IMPLANTS ON STEERS RECEIVING A LIMITED FEED OF CORN WHILE GRAZING—Dr. N. W. Bradley, Ralph Overfield, S. J. Lowry and Dr. W. P. Garrigus said this four-year study had as its objectives: (1) Determining the effect of stilbestrol on stocker steers being wintered at two different levels and (2) determining the effect of level of wintering, stilbestrol implanted in the fall, stilbestrol implanted in the spring and stilbestrol implanted in both fall and spring on grazing steers receiving a limited feed of corn.

This report also included results of the 1959-60 experiment which was part of the four-year study. The four men said, "Rate of gain was again significantly increased owing to stilbestrol implants at both levels of winter feeding. Amount of increased daily gain was 0.48 lb. per steer at the lower level of feeding and 0.40 lb. per steer at the higher level.

"During the summer phase, steers implanted only in the spring gained slightly faster than any of the other groups. There was no increased rate of gain due to re-implanting stilbestrol in the spring within the group of steers wintered at the lower level. However, re-implanted steers wintered at the higher level increased average daily gain by 0.31 lb. per steer. Steers receiving both fall and spring implants and wintered at the higher level appeared to have slightly lower grading carcasses. Also, steers wintered at the higher level and implanted only in the fall appeared to have slightly higher grading carcasses. However, some variability would be expected with the limited numbers involved in this one-year study. The four-year summary of the average results gives a clear picture of the effect of winter feeding and time of implanting stilbestrol."

The four Kentucky researchers say that, under conditions similar to those existing in this study, it is reasonable to think that the following results may be expected.

(1) A 24 mg. implant of stilbestrol improved average daily gain of steers wintered at the lower level by 0.25 lb. and by 0.28 lb. for steers wintered on the higher level.

(2) Steers implanted in the spring only gained faster than any other group of steers while they were given a limited feed of corn on pasture. Some of this increased summer gain may be due to less winter gain of steers not implanted in the fall.

(3) Steers implanted in the spring only and wintered at the lower level gained 0.32 lb. per steer daily more than steers which were not implanted. Within the group wintered at the higher level, the advantage was 0.33 lb. per steer daily.

(4) A second implant of stilbestrol in the spring did not appear to increase daily gains of steers wintered at the lower level.

(5) A second implant of stilbestrol increased daily gain by 0.38 lb. per steer over steers implanted in the fall only within the group wintered at the higher level.

(6) During the summer phase, steers implanted both in the fall and spring gained 41 lb. less in the group wintered at the lower level and 21 lb. less in the group wintered at the higher level than steers implanted only in the spring.

(7) Although carcasses from steers receiving two implants tended to grade slightly lower, average carcass grade for steers in all groups was U.S. good.

(8) The cost per 100 lb. of winter gain made by steers gaining about 1.4 lb. daily was about $5 less than for steers gaining at the rate of about 1 lb. per head daily.

(9) During the summer phase, cost per 100 lb. of gain was about $1 more for steers wintered at the higher level.

(10) Although steers wintered at the higher level were about 44 lb. heavier at the end of the experiment, carcass grades were not affected by the level of winter feeding.

(11) An increase in average daily gain of 0.42 lb. per steer during the

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SILVER DOLLAR PLAQUE WINNERS—These silver dollar plaque winners represent tonnage sales of Swisher feeds and concentrates in excess of quota for the Swisher feed division, William Davies Co., Inc., Danville, Ill. The winners received silver dollar plaques recently at a Swisher sales conference in Danville. Left to right are: P. H. Philpot, Georgia; John S. Caldwell, Mississippi; Ed Greer, Illinois, and Raleigh Baker, Illinois.

winter decreased average daily gain during the summer by 0.12 lb.

EFFECT OF VIRGINIAMYCIN ON FATTENING AND WINTERING RATIONS FOR BEEF CATTLE—In a replicated fattening trial involving 80 steers sired by the same bull, adding 40, 80 or 160 mg. of the antibiotic Virginiamycin or 80 mg. of Terramycin per head daily did not affect performance, according to Bernard Jones and Dr. N. W. Bradley.

However, they noted that stilbestrol implants produced a highly significant increase in rate of gain (0.51 lb. per head per day) but produced no statistically significant effects on carcass data.

The two researchers said that steer calves on a wintering ration of corn silage, soybean meal and hay for 170 days did not respond to either 40 or 80 mg. of Virginiamycin or 80 mg. of Terramycin per head daily.

TRIFLUOMEPRAZINE (TFM) AND DIETHYLSTILBESTROL (DES) FOR BEEF STEERS ON PASTURE—Philip A. Phar and Dr. N. W. Bradley say they undertook this experiment to determine the effect of both oral and implanted trifluomeprazine on grazing steers.

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It was noted that in this comparison steers which had been implanted graded two-thirds of a grade lower than non-implanted steers and sold for almost $1 less per 100 lb. However, because of the heavier weight of the implanted steers, they still returned slightly more per steer.

In the experiment on implanted trifluomeprazine it was noted that during the first 109 days of the trial there was no advantage for the TFM implants. After the steers were reimplanted, they showed a slight but insignificant increase in daily gain over the controls, according to the Kentucky researchers. However, it was stated that average daily gain for the entire 183 days actually favored the control group by 0.02 lb. per steer daily. And, it was pointed out there was no difference in intransit shrink, cooler shrink, dressing percent, carcass grade or live price per pound.

ZINC BACITRACIN AND DIETHYLSTILBESTROL FOR BEEF STEERS BEING FATTENED IN DRY LOT—From the results of this experiment, "it appears that the use of zinc bacitracin as a feed additive for the purpose of improving feedlot performance is not particularly encouraging," say Dr. N. W. Bradley and Othal Shimfessel.

They said, "Since more effect is noticed in the latter part of the feeding period, it is possible that this antibiotic would show up more favorably in longer feeding trials. Different kinds of rations as well as different environmental conditions could also affect the performance of steers receiving zinc bacitracin. Final judgment should not be passed on any new feed additive until it has been tested in a variety of wintering and fattening rations and under several different sets of environmental conditions."

The two Kentucky research men said administering 36 mg. implants of stilbestrol to steers resulted in an increased daily gain of about 0.2 lb. when compared with steers which were not implanted. They commented, "Also, implanted steers used their feed more efficiently. When comparing the performance data of the three lots of steers which were not implanted, it is obvious that neither level of zinc bacitracin had any beneficial effect. When implanted steers were fed zinc bacitracin, performance tended to be slightly increased by both levels of the antibiotic. Increased daily gain amounted to 0.08 lb. for steers receiving 35 mg. of zinc bacitracin and 0.16 lb. for steers receiving the higher level of antibiotic. However, these small differences did not approach significance."

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The following summary shows the average of test results comparing Taomyxin with antibiotics used alone or in combination:

	Control†	Taomyxin
GROWTH		
Number of trials	12	12
Number of pigs	694	669
Av. daily gain—lbs.	1.38	1.48
Increase over controls—%	—	7.25%
FEED EFFICIENCY		
Number of trials	12	12
Number of pigs	694	669
Lb. feed/lb. gain	3.70	3.62
Improvement—%	—	2.20%
ECONOMICS††		
Cost per cwt. gain	$11.951	$11.761
Savings per cwt. gain	—	.190
Savings per pig (180 lbs. gain)	—	.342
Savings per 100 pigs	—	$34.20

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††Cost of antibiotic supplements included.

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SILVER DOLLAR PLAQUE WINNERS—These silver dollar plaque winners represent tonnage sales of Swisher feeds and concentrates in excess of quota for the Swisher feed division, William Davies Co., Inc., Danville, Ill. The winners received silver dollar plaques recently at a Swisher sales conference in Danville. Left to right are: P. H. Philpot, Georgia; John S. Caldwell, Mississippi; Ed Greer, Illinois, and Raleigh Baker, Illinois.

winter decreased average daily gain during the summer by 0.12 lb.

EFFECT OF VIRGINIAMYCIN ON FATTENING AND WINTERING RATIONS FOR BEEF CATTLE—In a replicated fattening trial involving 80 steers sired by the same bull, adding 40, 80 or 160 mg. of the antibiotic Virginiamycin or 80 mg. of Terramycin per head daily did not affect performance, according to Bernard Jones and Dr. N. W. Bradley.

However, they noted that stilbestrol implants produced a highly significant increase in rate of gain (0.51 lb. per head per day) but produced no statistically significant effects on carcass data.

The two researchers said that steer calves on a wintering ration of corn silage, soybean meal and hay for 170 days did not respond to either 40 or 80 mg. of Virginiamycin or 80 mg. of Terramycin per head daily.

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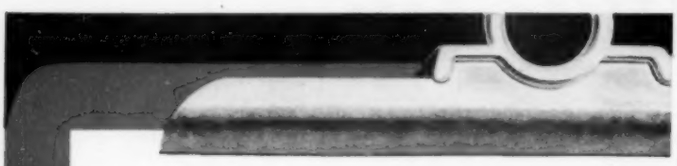

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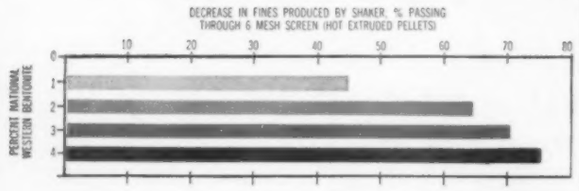

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was designed to determine the value of (1) creep feeding of lambs, (2) a simple versus a complex creep mixture and (3) early weaning of lambs, according to G. C. Peterson, J. M. Gay and Dr. P. G. Woolfolk.

They report, "Creep feeding definitely increased rate of gain during both the drylot and pasture period. The complex creep mixture was consumed at a higher level, resulting in faster gains as compared with the simple mixture. Increased gains on the complex mixture occurred earlier in the trial. Early weaned lambs fed in drylot during the pasture phase made the fastest gains of any group, resulting in superior over-all gains for that group. Greatest economy of gain due to supplementary feeding occurred during the drylot phase. Using the control lot as a base, the cost of extra gain resulting from supplementary feeding was lowest for the complex creep group. Highest cost occurred with the early weaned group.

"Work on the simple and complex mixture is being continued this year," said the research men. "Also, further work is being done to evaluate creep feeding on pasture."

SYNCHRONIZING ESTRUS IN EWES BY FEEDING AN ORALLY-ACTIVE PROGESTIN — The treatment was quite effective in controlling time of estrus, but this did not insure uniform time of lambing since less than half (42%) of the ewes conceived from breeding at the first post-treatment heat, according to E. C. Simpson, J. S. Evans and Dr. R. H. Dutt. They noted that in later studies with a higher level of Provera conception rate was improved.

In the experiment, Provera (6-methyl-17-acetoxyprogesterone) was fed to ewes starting at various stages of the estrual cycle for a period of 14 days. The researchers said that a preliminary study showed that 50 mg. daily given by capsule inhibited estrus activity. In this study, 50 mg. was made available daily to each ewe mixed in ground corn. None of the ewes came into estrus while on treatment, it was reported. Seventy-two percent came into estrus within three days after the end of the treatment and 83% within eight days after the end of the treatment.

It was pointed out that subsequent estrus cycles of ewes which did not become pregnant were apparently not affected by the treatment, since they were of normal duration. The researchers said, "The presence of active Corpora lutea on the ovaries of ewes not showing heat within eight days of post-treatment is evidence that ovulation had occurred without heat behavior."

Industry-College Committee Created

DENVER, COLO. — Creation of a feed coordinating committee between members of the Colorado feed industry and key staff members of Colorado State University, so that "both groups in the future will be talking the same language," has been announced jointly by Dr. Dean Story, head of CSU department of animal science, and D. L. Chase, chairman of the Colorado Grain & Feed Dealers Assn. feed committee.

To be known as the CSU-Feed Industry Coordinating Committee, it is composed of seven members from the feed industry and seven agriculture professors.

Three meetings of the committee already have been held on the CSU campus where extensive discussions were held concerning feeds and nutrition, and several recommendations were published. The next meeting will be held Sept. 29, in conjunction with the presidents of the various poultry and livestock associations in Colorado.

The objective of the committee is to establish a common ground on feed additives and nutrition so that the feed industry and the university staff will advise feeders, farmers and ranchers uniformly.

W. Henry Blaine Dies

SEDALIA, MO.—W. Henry Blaine, 65, president of System Mills, Inc., Sedalia, died recently.

Mr. Blaine was widely known throughout Missouri as the operator of one of the state's largest independent milling companies.

He is survived by his wife and a daughter, Mrs. Judy Harrell of Sedalia, and a son, Marvin, of Coronado, Cal. Three sisters and four brothers also survive.

FIRM OPENS BRANCH

RIGBY, IDAHO—A feed store on East Main Street here has been opened as a branch of the C. W. Taylor & Sons business. Wilmer Taylor and his grandson, Steven, are in charge of the new outlet. Elbert Taylor will continue to manage the business at its track-side location, according to announcement here.

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Part 1

Reports on Poultry Nutrition From the Annual Meeting of the Poultry Science Assn.

By Dr. H. R. Bird
University of Wisconsin

The Poultry Science Assn. meeting, like Christmas, comes but once a year and provides something for everybody. This year it came Aug. 8 to 11 at Pennsylvania State University, with six sessions on nutrition, some of them held in pairs simultaneously. Simultaneous sessions are easy enough to justify. Nobody could digest 110 papers in 3½ days, so why should anybody hear them all?

Of course, if anybody could hear them and digest them all, he'd have at his finger tips about all of the current poultry nutrition research in the U.S. and Canada. Not only were the papers numerous but they were of high quality, generally; and many of them were important to the feed industry, either because they can be applied directly or because they fill gaps in the information upon which modern feed formulation and manufacture are based.

Most papers had more than one author, but this discussion will mention the name of just the one author who presented the paper and the institution he represented.

Proteins and Amino Acids

One of the most important and popular fields of work in poultry nutrition for the last several years has been the field of proteins and amino acids, so it is not surprising that it received much attention at the meeting. Every feed formulator would like to have a simple but complete table giving the requirements of various ages of poultry for all the essential amino acids. However, it appears that the closer this table gets to completion, the less simple it becomes.

J. S. Adkins of Wisconsin reported the most thoroughgoing success yet achieved with an amino acid diet, free of protein, for laying hens. Hens fed the amino acid diet for six months performed as well as hens fed a practical diet, with respect to production, body weight, egg quality and hatchability, but egg size did not increase as much on the amino acid diet as on the practical diet. The surprising thing about this work was the successful diet contained amino acids equivalent to 20% of protein, and it appeared that diets containing lower levels of amino acids were not successful. In past arguments over protein requirement, Wisconsin hens have been notable for their low requirement, and have performed very well on 12 or 13%.

P. E. Waibel of Minnesota fed hens a diet composed primarily of corn, minerals and vitamins and then added all of the amino acids needed, in the quantities needed, to meet the supposed requirements. Performance was not satisfactory until amino acid levels were raised 25% above the supposed requirements. Both the Minnesota and Wisconsin studies suggest that hens fed large quantities of amino acids need more nitrogen than hens fed only proteins. If this is true, one of the nutritionist's long-cherished hopes will go into the droppings pit—namely the hope that amino acid requirements determined with amino acid diets can be used in formulating practical feeds. Incidentally, the Minnesota diet containing corn, amino acids, minerals and vitamins may be the feed of the future, but it will be only in the somewhat distant future that all of the amino acids needed to supplement the corn protein will be available.

J. H. Quisenberry of Texas A&M has suggested previously that the high protein requirement of Texas hens might be the result of a poorer amino acid combination in a milo-soy than in a corn-soy diet. He described experiments at this session in which hens in cages were fed 14, 16 or 18% of protein in diets containing 20% of corn, with milo as the only other grain and with soybean oil meal as the only protein supplement. The 16 and 18% protein diets produced equally good results, but the 14% diet was inferior. Adding lysine greatly improved the 14% protein diet. Adding methionine gave a lesser improvement, and the two amino acids together were no better than lysine alone. The 16 and 18% diets were not improved by adding lysine and methionine.

J. D. Yates of Michigan State reported that a laying diet made up largely of corn and soybean oil meal and supplying 11.2% of protein and 1,000 Calories of productive energy per pound was improved from the standpoint of egg production by adding either methionine or arsanilic acid. The two supplements together were no better than methionine alone, and adding lysine with the methionine produced no greater benefit than methionine alone. Egg weight was reduced on the low protein diet and was not restored to normal by any of the supplements. These experiments were conducted with in-cross-bred hens in cages.

Not only amino acid levels but also energy levels affect protein requirements. **R. H. Harms of Florida** found that 17% protein was better for layers than 13% when the diet supplied 1,063 Calories of productive energy per pound but not when the diet supplied 976 Calories.

The amino acid requirements of chicks came in for some additional attention. **D. C. Dobson of Utah** devised a diet in which the protein was supplied by wheat, gelatin, casein and soy protein, with the essential amino acids at levels close to the N.R.C. levels. They tried raising all the amino acids and lowering them one at a time and thus devised a combination containing increased levels of arginine, histidine and lysine which induced an average gain of 10.9 gm. per day compared with 7.7 gm. per day on the amino acid levels recommended by the N.R.C. In view of the gelatin in the diet, one must add that the revised amino acid levels were better than the N.R.C. levels for this individual diet; but perhaps one should make this qualifying statement for every individual diet.

An interesting effect of amino acids which has not received much attention was described by **W. J. Owings of Iowa State.** He found that adding arginine to a high casein diet or a casein-gelatin diet for chicks increased the numbers of several kinds of intestinal bacteria and of molds and yeasts. Adding arginine to the diet increased the blood plasma level of proline but decreased the plasma levels of threonine, alamine, valine and tyrosine. Further study of the effects of dietary amino acids on the intesinal flora and on blood levels of other amino acids may help to explain the chicken's puzzling responses.

W. R. Featherston of Wisconsin studied blood levels of amino acids in order to demonstrate that chicks can utilize urea or diammonium citrate as a source of nitrogen. He fed a basal diet containing only the essential amino acids at minimal required levels. Addition of urea as a supplement to this diet resulted in improved growth, very satisfactory nitrogen retention and an increase in the blood levels of most of the non-essential amino acids. Diammonium citrate was used a little more effectively than urea. This work establishes beyond question that under the conditions of these experiments chicks utilized urea as a source of nitrogen for synthesis of the non-essential amino acids that went into the body proteins. Thus we can tear out another "well-known fact" from the textbooks; namely, that chickens, being non-ruminants, do not utilize urea. Whether we can take advantage of the chicken's utilization of urea in feed formulation is still a question of some magnitude. Apparently the chick does not make much use of urea if he has plenty of non-essential amino acids in the diet.

M. C. Nesheim of Cornell reported that extra arginine partially overcame the toxicity of DL phenylalanine when the latter was fed as 3% of the diet, thus providing another example of an amino acid interrelationship.

So the level of an amino acid in a diet may influence the requirements for other amino acids and for protein, and it may influence the intestinal flora. The utilization of an amino acid may be influenced by levels of other amino acids, of protein, of energy and of simple nitrogen compounds like urea.

Dr. Quisenberry concluded his report on laying hens by saying, "Additional experimental work is required," and he ventured the opinion that the other authors of papers on amino acids and proteins would accept this as a general statement. He was right. And the additional experimental work should be extremely interesting.

The problems of protein nutrition are complex, but the problems of energy nutrition involve one complexity not shared by any other nutrient. It is more difficult to regulate intake of energy than of any other nutrient because chickens have a tendency to regulate their own energy intake by eating more of a low energy diet or less of a high energy diet.

E. P. Singsen of Connecticut described experiments on methods of limiting feed intake of broiler-type White Rock breeders. He reported good success with a "skip-a-day" method in which the birds were without feed one day in seven or one day in five or one day in three. That is, they were without feed on the "skipped" day except for 1 lb. of wheat per 100 birds per day every day, which was fed in the litter. Egg production was reduced slightly by withholding feed one day in three, but not by withholding one day in five. In two years' experiments, hatchability was improved by withholding feed one day in five. Body weight increased slowly. Effects on mortality were not consistent in the two years. There was no picking problem. Further work is being done on this method of restriction. The authors concluded that successful feed restriction must permit a slow increase in body weight. More severe restriction is likely to decrease rate and efficiency of egg production.

W. E. Donaldson of Rhode Island reported two 36-week experiments with meat-type hens in which energy intake was limited to 75% of the free choice level of intake, while intake of all other nutrients was maintained the same as that of the free choice birds. This degree of restriction reduced egg production and egg size.

Dr. H. R. Bird

T. M. MacIntyre of the Canada Department of Agriculture described experiments on feed restriction with growing White Leghorn pullets. Various groups were restricted to 60% or 70% of full feed starting at ages from 5 to 17 weeks. All groups were given full feed at 22 weeks. Restriction delayed the attainment of 50% production by as much as 19 days in some groups. Feed restriction increased the percentage of large and medium eggs in the first 28 days, but had no consistent effect on egg production or on egg weight during the whole laying period or on laying house mortality.

A. A. Kurnick of Arizona reported that diluting the growing mash with Bentonite or wood pulp to a productive energy level of 566 Calories per pound delayed sexual maturity and increased the number of large eggs but had no effect on mortality.

Arguments will continue for some time as to the desirability of limiting energy intake of chickens of different ages. But there is no argument over the desirability of finding out how to regulate energy intake if and when such regulation is desirable. So we need much more work on this subject.

Just as the poultryman may wish to limit the intake of his birds to a certain number of pounds per day, so an editor frequently limits an author to a certain number of columns per issue. Additional information will be rationed out in another issue.

Plans Announced for Nitrogen Plant in Iowa

CHICAGO—Swift & Co. and Skelly Oil Co., Chicago, have announced formation of an Iowa corporation to construct and operate a $10 million nitrogen products plant near Clinton, Iowa. The new corporation will be known as the Hawkeye Chemical Co.

P. M. Jarvis, president of Swift, and Don H. Miller, Skelly president, said in a joint announcement that the new facilities will help meet increasing demands for nitrogen products from chemical and agricultural industries.

Capacity of the plant will be about 300 tons daily. Ammonia, nitric acid, nitrate solution, ammonium nitrate, urea and nitrogen solutions will be the principal products.

Present plans call for the plant, which is to be located on land now under option about a mile southwest of Clinton, to employ about 150 persons.

Joe Wenger on Tour Of Europe, Africa

SABETHA, KANSAS — Joe Wenger, partner in Wenger Mixer Manufacturing, here, is currently on a world tour that will take him from the Arctic Circle in Norway to the Congo in Africa.

Joe Wenger

He is accompanied by his wife and they are official Kansas Conference delegates to the World Methodist Church Conference in Oslo, Norway. Following this conference, the Wengers will fly to Africa's new republic of Congo.

Through three previous trips to the African continent and an interest in mission work, Mr. Wenger has been appointed by the Agricultural Aids Foundation to research and coordinate the procurement of small food processing plants suitable for installation in underdeveloped countries such as the Congo.

Agricultural Aids Foundation is a non-profit laymen's movement and functions in eight African countries. In concentrates on a pioneering effort in mechanical farming methods, according to the announcement. The foundation reports that it has placed 200 small agriculture tractors at strategic points across the African continent since its founding in 1954. The foundation also conducts research, trains Africans to use the modern machinery and loans funds to competent African farmers for the purchase of farm equipment.

One Missing Element

The foundation reports that the tractor and plow are revolutionizing patterns of production in Africa but that one element is missing. Food canning, processing and refrigerating methods are virtually non-existent, and seasonal surpluses of food go to waste.

It was with this problem in mind that Agricultural Aids Foundation's Keith Smith of Los Angeles approached Joe Wenger. Mr. Wenger's responsibility will be in three phases of work, according to Mr. Smith. The first is food processing and canning. The second is a food upgrading plan with high protein concentrates and other elements to fortify present diets. The third phase is improved feed milling and livestock feeding techniques to upgrade the quality of livestock and poultry raised in the Congo and Katanga.

Nathan Moore Retires

ATLANTA, GA. — Nathan Moore, vice president and purchasing agent for the Atlanta Milling Co., retired from the company Aug. 18. He had been with the company for 42 years, and was well-known throughout the South.

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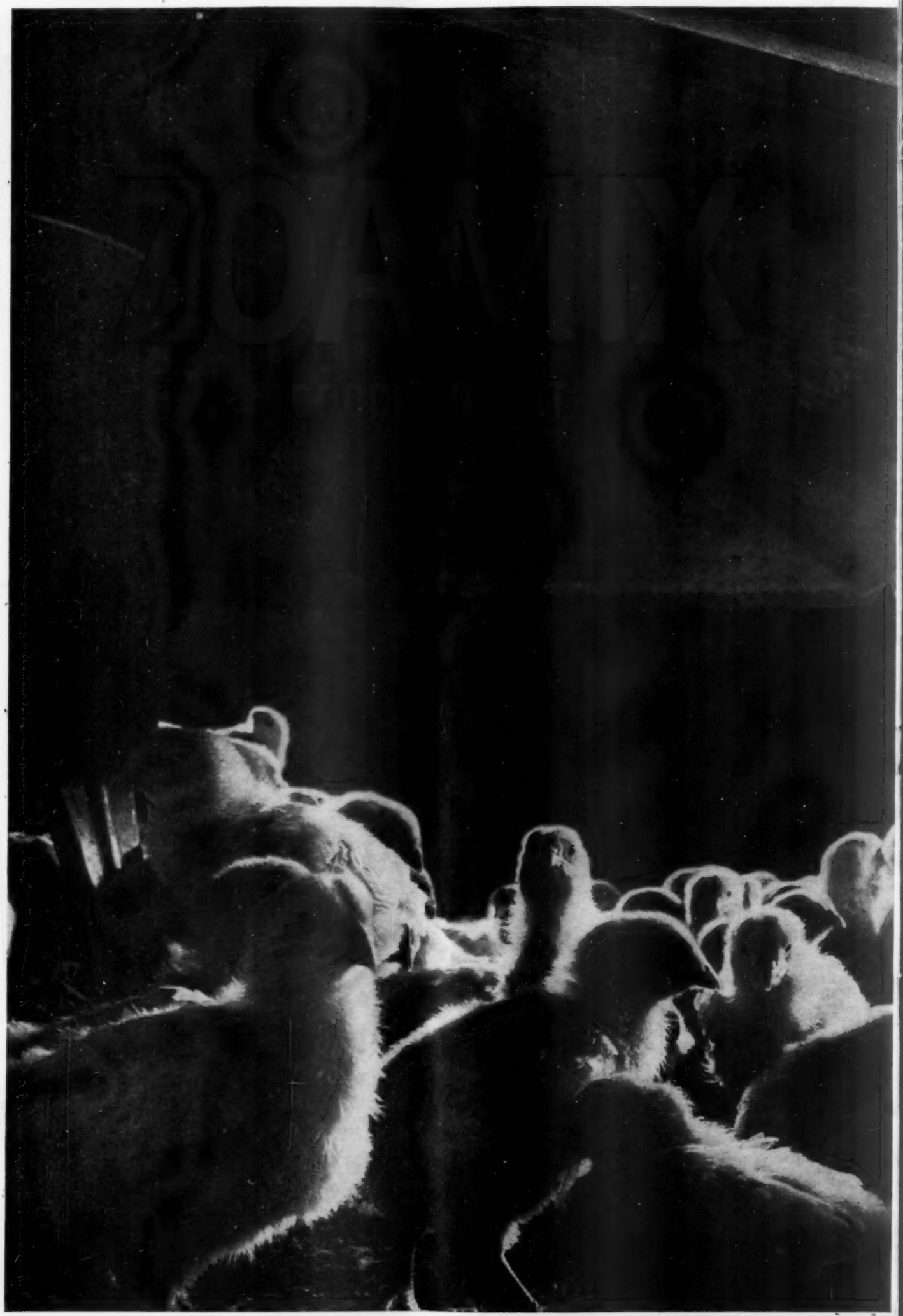

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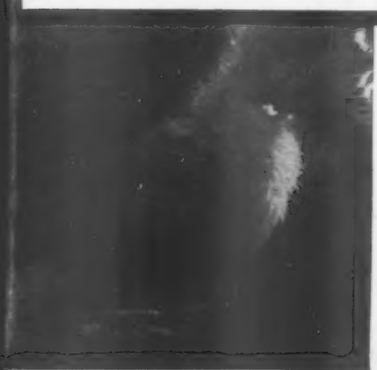

Free educational film. "Chemicals: Vital to Our Food Supply," a 22-minute sound and color story of the contributions of chemicals to mankind, is now available for screening or group showings. Film has many references to the poultry industry. For bookings, contact your Dow Feed Industry Sales representative.

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MECHANIC AGREEMENT—Swanson Elevator Co. at New Sharon, Iowa, has a "first priority" agreement with the mechanic pictured here. The firm furnishes the mechanic a building, light, power, heat and some tools, in exchange for top priority when its vehicles need servicing and repairs. The mechanic is paid $2 per hour when he's working on Swanson equipment.

Firms Save Money by Repairing And Servicing Own Vehicles

By Al P. Nelson
Feedstuffs Special Writer

Quite a few feed men today are concerned with vehicle maintenance problems. This is particularly true where a feed firm may have five or more trucks, including some heavy trucks. To get these vehicles serviced and repaired now and then can be a costly factor in feed business management.

In some instances, feed men in reviewing this problem have decided to do this service work themselves. Men who operate mobile mills, for example, are usually taught to do most of the maintenance work on their vehicles, including quite a few repairs. Many mobile mill operators devote Saturdays to service and maintenance of their equipment and vehicles.

Money Saving Plan

B. C. (Bud) Swanson, owner of Swanson Elevator Co., New Sharon, Iowa, has nine vehicles, including two bulk trucks, a 1-ton pickup, three 2-ton grain trucks, a ½-ton pickup and two passenger cars. Mr. Swanson, who has tried a number of methods to handle the service and repair of his vehicles, has worked out a program where he says he saves from $600 to $700 per month in this department.

Formerly Mr. Swanson hired a mechanic and put him in a building adjacent to the feed mill and elevator.

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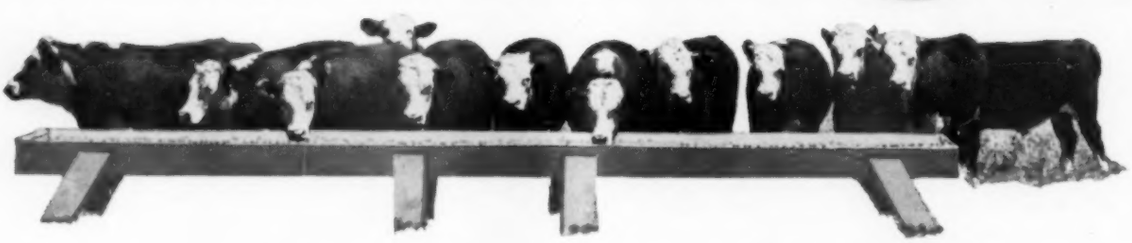

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He also got a trade discount on all parts for his vehicles. Then he tried to employ the garage mechanic spare time in the feed mill.

However, Mr. Swanson says he discovered this arrangement didn't work out, largely because he could not keep the mechanic busy, even with two divisions in which to work.

His next step was to have the servicing and repair of his firm's vehicles done at a local garage. He was charged $3.50 per hour for labor and got no discount on parts. "This setup proved to be quite expensive, too," Mr. Swanson said. "The work was generally satisfactory, but I found I did not have the control over the vehicles that I needed for efficient operation of my grain and feed business."

Mr. Swanson then made contact with a trained mechanic who wanted to go into business for himself. This man now operates the garage adjacent to the feed mill. The mechanic gets the garage rent free, and he also gets the use of Mr. Swanson's garage tools, of which there are many. The Swanson vehicles get top priority on service and repairs. The time spent by the mechanic on Swanson vehicles is charged at $2 per hour.

When not repairing Swanson vehicles, the mechanic repairs and services cars and trucks for other clients. He keeps all the revenue he derives from this additional business. Thus, the mechanic is realizing his goal—of being in business for himself.

"Actually, I am saving between $600 and $700 per month through my vehicle maintenance program," Mr. Swanson says. "We watch the mileage very carefully on our trucks, check the costs and watch tire pressures, etc. In other words, our vehicles get excellent care and it is paying off in fewer repairs. Perhaps there are cases where other feed man can work out some such arrangement with a local mechanic."

Aid From Mail Carrier

An Illinois firm handles its maintenance problems with the aid of a rural mail carrier. Donald Welborn and Ralph Parrish, who operate Parrish Feed Service, Osco, Ill., have eight vehicles, including two bulk trucks. When they bought their business some years ago, an implement service shop came with it. This shop is now converted into a small garage, with the needed service equipment.

Mr. Welborn and Mr. Parrish have obtained the part time services of a rural mail carrier, who is a good mechanic. The mail carrier's governmental work is completed about 1 p.m. every day, which gives him several hours every afternoon to handle vehicle repairs for the Parrish Feed Service.

"This arrangement saves money for us," says Mr. Parrish. "We are able to get our servicing done the day we want it, and our equipment is not tied up as it might be on an appointment basis at a commercial garage. We also use the mail carrier as a pinch-hit truck driver when we have too."

Porter's Feed Store, Ft. Dodge, Iowa, has a large store, a mobile milling service, and the firm also hauls feed for its own use and also feed for Nutrena dealers over a wide area. There is a well-equipped garage adjacent to the feed store. Here, the firm's 20 small and large trucks are serviced. The vehicles include three 6-ton capacity bulk trucks, three 12-ton auger trailers, one 8-ton auger trailer and one 18-ton auger trailer.

"By doing all our truck maintenance, we lower our service costs and keep our units on the road at all times and in good order," states Glenn Porter, who has charge of the equipment and garage, while his brother, Wilbur, handles outside selling and collecting.

The Wisconsin Milling Co., Menomonie, Wis., operates three mobile milling units, which accumulate many miles per month handling grinding and mixing needs for customers on 15 routes. The milling company, headed by Robert Pierce, recently erected a large garage for storage and servicing of three units. There are facilities for greasing, washing and checking of the mobile mills, as well as the making of minor repairs. Through careful maintenance of these mobile units every week, Wisconsin

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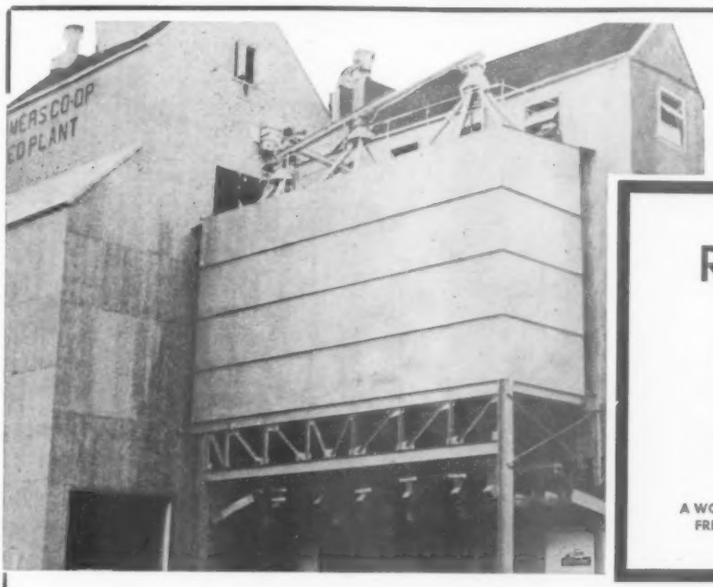

Photo shows Forster's new bulk load-out system installed for Farmers Co-op, Caldwell, Kansas

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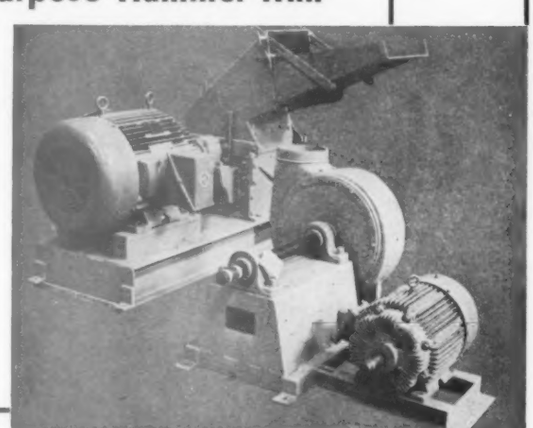

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COLUMBUS FEED CLUB OFFICERS, DIRECTORS—New officers and directors of the Columbus Feed Club are pictured here. They were elected at a recent meeting of the group at the Southern Hotel in Columbus. Front row, left to right, are: W. S. (Tommy) Thompson, Ohio Department of Agriculture, vice president; H. R. Kagay, The Mill Mutuals, president and Cleon C. Welch, secretary-treasurer. New directors are shown from left to right in the second row. They are: Paul Bradfield, General Bag Corp.; R. W. Liston, Eshelman Grain, Inc., and John Biersteker, Bemis Bro. Bag Co.

Milling is succeeding in keeping its truck service costs low.

Russells, Hilliards, Ohio, a grain and feed milling firm, has a special vehicle repair department. The service crew can perform minor and major repairs, even motor overhauls, and can repair truck bodies and lay new truck floors. John Russell, president, states that the firm's ability to service and repair its 14 vehicles has helped to keep truck maintenance costs reasonably low.

"We can prolong the serviceability of many trucks through careful repair," Mr. Russell says. "In one instance, we even repaired an old tractor for use around the mill area, and it has been giving extra service for several years. Our service crew of two men is usually busy most of the time with vehicle servicing, but we can call on them for other duties, too, when the need arises."

The hourly service and repair rate in many garages is rising, and so are the costs of parts. Since much of the equipment a feed dealer uses for delivery is heavy, with considerable daily wear, and parts are large, many dealers can probably obtain a more economical service arrangement by exploring the various opportunities in their areas.

PRODUCT DISPLAY — Les Hines, operator of Worleys, Inc., branch outlet in Las Cruces, N.M., for Worley Mills, Clovis, N.M., displays his firm's "Okay" brand of lay pellets.

Firm Puts Emphasis On Public Relations

By Special Correspondent

Public relations get a lot of emphasis at Worleys, Inc., branch outlet in Las Cruces, N.M., for Worley Mills in Clovis, N.M. Les Hines, operator of the Las Cruces branch, credits his increased business volume to calling on prospects and by making a point of getting acquainted with people.

Mr. Hines' operation, one of several Worley Mills outlets in the area, serves parts of west Texas and southern New Mexico with Worley "Okay" brand products.

The Las Cruces branch has been developed around the idea that the public must know of the products and services the store has to offer. Mr. Hines invites customers in to visit and look at the products he has for sale. He handles animal vaccines, insecticides and as he puts it, "about everything farmers and ranchers need except machinery." If he does not happen to have the item wanted, he offers to get it for the customer.

Worley Mills products are shipped to this Las Cruces branch where Mr. Hines is able to custom mix in his 1-ton mixer according to the wishes of the customers. He has two delivery trucks, a small one used about town, and a larger one out in the territory.

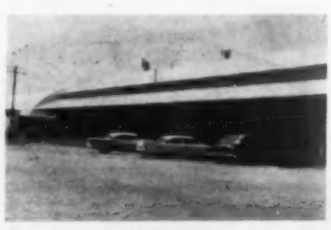
Mr. Hines considers floor traffic a very interesting and significant phase of the merchandising. He enjoys his work and people, calls most of his customers by name and visits with them while asking their needs. He provides a table in the store loaded with the pamphlets and booklets on new products the firm handles.

A salesman for the outlet is continuously out in the territory getting business and contacting the regular customers on their needs and informing them of any new lines.

Las Cruces is located in the Mesilla valley where farming and ranching are said to thrive.

The firm's large corrugated steel building includes an office, mixing facilities and a display of products.

Mr. Hines thinks public relations a big factor in getting and keeping business and he maintains an advertising program. For his advertising program he relies on newspaper and farm and ranch magazines. He also uses radio.



BRANCH FACILITIES — Facilities of Worleys, Inc., Las Cruces, N.M., branch outlet for Worley Mills at Clovis, N.M., are shown here. The firm serves parts of west Texas and southern New Mexico.

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PILOT BRAND OYSTER SHELL

Coast-to-coast PILOT BRAND is a best-seller every month in the year. That's because this ideal eggshell material is tried, tested, proved. It definitely helps poultrymen get top production of stronger shelled eggs—the kind that bring highest prices in the market.

This universal demand for PILOT BRAND means that you can always count on steady sales, fast turnovers, good profits. And we help to keep customers coming your way with consistent advertising in leading farm and poultry publications and on more than 70 radio stations.

It pays BIG to stock, display, promote PILOT BRAND Oyster Shell —the largest selling eggshell material in the world.

PILOT BRAND OYSTER SHELL FOR POULTRY

Oyster Shell Products Company

Subsidiary of Southern Industries Corporation

Mobile, Alabama

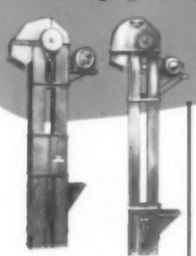
MODERNIZE YOUR MILL WITH KELLY DUPLEX

DEPENDABLE MILL EQUIPMENT

They give you top service and economy!

Roller Mill

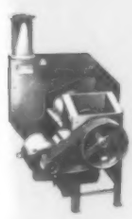
Vertical Screw Elevator



Bucket Elevators

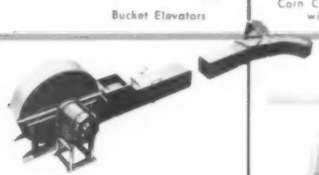
Corn Cutter and Grader with Aspirator

Vertical Feed Mixer ½ to 5 tons



Corn Sheller

Chain Drag in double and single geared types



Forced Air Carloader with motor or belt drive

Remote Change Hammermill

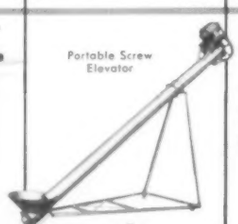
Twin Molasses Mixer

Corn Scalper with or without air cleaner

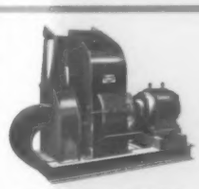
Clean-Flo Conveyor

Electric Truck Hoist cuts handling costs

Portable Screw Elevator



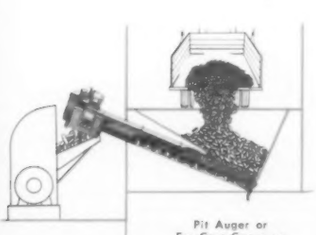
Combined Sheller-Cleaner



Instant Change Hammermills 12", 16", 20", 24" sizes

Finger Type Corn Crusher and Feed Regulator

Portable Bulk Scale for on-the-spot weighing



Pit Auger or Ear Corn Conveyor

The Duplex Mill & Manufacturing Company — Springfield, Ohio

Yes, I'm interested in the KELLY DUPLEX machinery checked at the right. Please send me full information on these machines without any obligation.

NAME _____ TITLE _____

FIRM _____ TEL. NO. _____

CITY _____ STATE _____

☐ Information on Free Mill Planning and Layout Service

Mail this Card — No Obligation KELLY DUPLEX

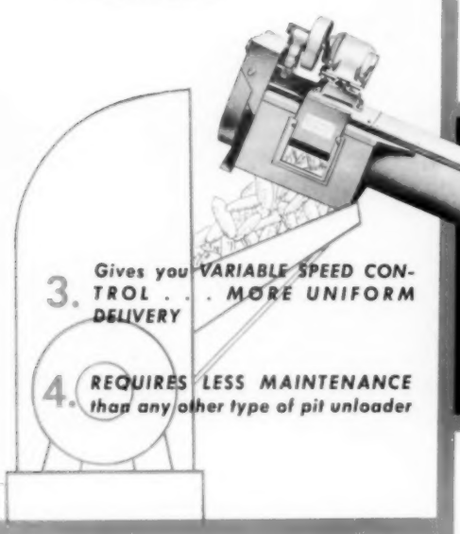
✓ Check Here!

☐ Pit Auger	●
☐ Chain Drag	
☐ Hammermill	2
☐ Vertical Feed Mixer	
☐ Twin Molasses Mixer	3
☐ Clean-Flo Conveyor	
☐ Vertical Screw Elevator	4
☐ Portable Screw Elevator	
☐ Bucket Elevator	5
☐ Electric Truck Hoist	
☐ Corn Sheller	6
☐ Portable Bulk Scale	
☐ Truck Scale	7
☐ Combined Sheller-Cleaner	
☐ Gyrating Cleaner	
☐ Corn Scalper	
☐ Corn Cutter and Grader	
☐ Corn Crusher—Regulator	
☐ Electric Bag Cleaner	
☐ Forced Air Carloader	
☐ Magnetic Separator	
☐ Roller Mill	
☐ Grain Blower	
☐ Complete Line Catalog	

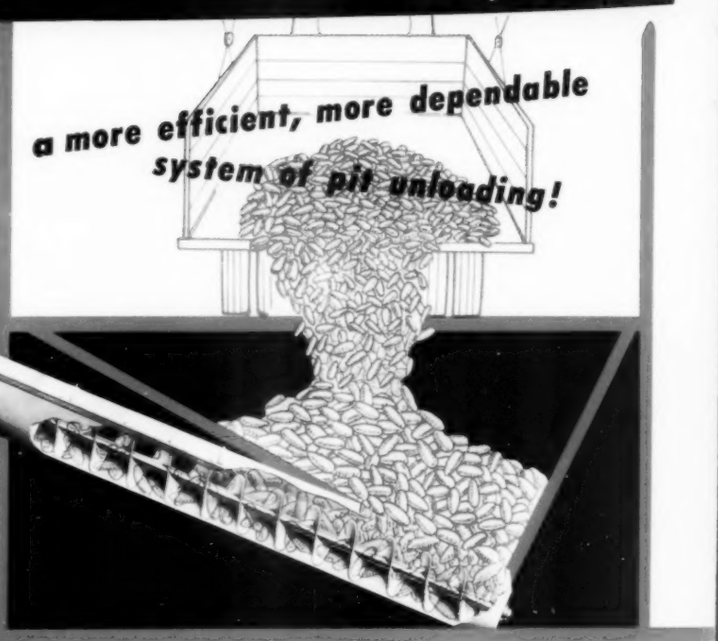
KELLY DUPLEX PIT AUGER

(ear corn conveyor)

1. *Handles HUSKED and SNAPPED EAR CORN and all types of small grain*
2. *Assures you BIG CAPACITY at LOW HORSEPOWER*
3. *Gives you VARIABLE SPEED CONTROL . . . MORE UNIFORM DELIVERY*
4. *REQUIRES LESS MAINTENANCE than any other type of pit unloader*



a more efficient, more dependable system of pit unloading!

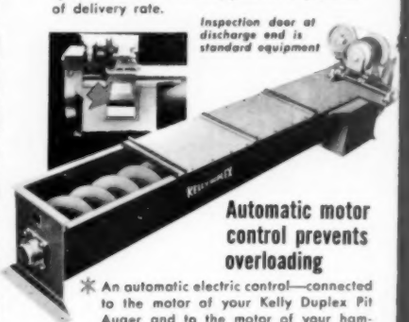


Built to meet your needs, the Kelly Duplex Pit Auger can be furnished in any length with choice of 12", 14" or 16" diameter screw—can have any length hopper opening—and can be equipped with any size motor. Check and mail card today for full details.

The Kelly Duplex Pit Auger actually offers you an entirely new system of pit unloading . . . a system designed to give you better delivery, more efficient power use, lower maintenance, and BIGGER PROFITS. Constructed entirely of heavy, arc welded steel . . . the Kelly Duplex Pit Auger will handle husked and snapped ear corn—as well as all types of small grain and free-flowing bulk materials. Drive can be at either end of the Pit Auger—making possible an open end discharge if desired. It's absolutely grain-tight . . . is smooth and noiseless in operation . . . and assures an even, uniform flow of material. Maintenance costs are low because there are fewer moving parts—and far less chance of breakdown—than with any other type of pit unloader.

FEATURES

Include an inspection door at the discharge end . . . an enclosed gear reducer and enclosed roller chain drive, both of which run in oil . . . and variable speed control for instant, positive adjustment of delivery rate.



Inspection door at discharge end is standard equipment

Automatic motor control prevents overloading

✳ An automatic electric control—connected to the motor of your Kelly Duplex Pit Auger and to the motor of your hammermill or corn sheller—gives complete, positive control over feeding. If the hammermill or corn sheller motor begins to show an overload due to excessively rapid feeding—the motor on the pit auger automatically stops until the load passes—then automatically starts again. Automatic motor control is available as optional equipment.

VIA AIR MAIL

FIRST CLASS PERMIT NO. 72

SPRINGFIELD, OHIO

BUSINESS REPLY CARD

NO POSTAGE STAMP NECESSARY IF MAILED IN THE UNITED STATES

POSTAGE WILL BE PAID BY

THE DUPLEX MILL & MFG. CO.

SPRINGFIELD, OHIO

Drunk: Ho, lady, you got two ver' beautiful legs.

Girl (snapping): How would you know?

Drunk (brightly): I counted 'em.

◆ ◆ ◆

A man was very indignant at being arrested. He staggered into the police station and before the captain had an opportunity to say anything he pounded his fist on the desk and asked, "What I wanna know is why I've been arrested."

"You were brought in for drinking," answered the captain.

"Well, thass different, thass fine—let's get started."

◆ ◆ ◆

Television is called a medium because so little of it is either rare or well done.

◆ ◆ ◆

"Look at that one—the one staring at us through the bars. Doesn't he look intelligent?"

"Yes. There is something uncanny about it."

"He looks as if he understood every word we're saying."

"Walks on his hind legs too and swings his arms."

"There! He's got a peanut. Let's see what he does with it."

"Well, what do you think about that! He knows enough to take the shell off before he eats it, just like we do."

"That's a female alongside of him. Listen to her chatter at him. He doesn't seem to be paying much attention to her, though."

"She must be his mate."

"They look kind of sad, don't they?"

"Yes, I guess they wish they were in here with us monkeys."

◆ ◆ ◆

Don't think that every sad-eyed woman has loved and lost—she may have got him.

◆ ◆ ◆

Doctor (after a thorough examination):

Cowboy: "Whaddya suggest?"

Doctor: "Can you arrange to sleep out-of-doors?"

Cowboy: "Well, I been sleepin' under the old chuck wagon all summer, but I reckon I could kick a couple of spokes outa the wheels."

◆ ◆ ◆

At the race track, there are windows that clean people.

◆ ◆ ◆

Mathematical professor: "If there are forty-eight states in the Union, and superheated steam equals the distance from Bombay to Paris, what is my age?"

Frosh: "Forty-four, sir."

Prof.: "Correct; how did you prove that?"

Frosh: "Well, I have a brother who is twenty-two, and he is only half cracked."

◆ ◆ ◆

The trouble with trying to put an old head on young shoulders is that you're apt to get slapped.

◆ ◆ ◆

An oldtimer in a small Alabama town was standing on a street corner watching ominous black clouds gathering in the west when a stanger standing next to him remarked, "I don't like to say it but those clouds look exactly like some we had back in Texas one time just before a tornado struck."

"Was it a bad'un?" the native asked.

"Bad?" the Texan replied. "How you figger I come to be in Alabama?"

◆ ◆ ◆

Judge (sentencing criminal): "Just what good have you ever done for humanity?"

Yegg: "Well, I keep three or four detectives working regularly."

◆ ◆ ◆

Farmer (sitting on wagon pulled by one mule): "Giddap Pete! Giddap Barney! Giddap Johnny! Giddap Ralph!"

Stranger: "How many names does that mule have?"

Farmer: "His name's Pete, but he don't know his own strength so I yell a lot of names and he thinks other mules are helping him."

TO
THE FEED MANUFACTURER ON HIS WAY UP

The Ultra-Life Program makes it easier.

Step up your tonnage, pep up your feed formulas, and improve your results on the farm in 1961. The Ultra-Life Program can help you expand profits and help you on the way up this year.

Ultra-Life leads the industry in products and services to independent feed manufacturers. Our 25 years of experience in providing vitamin and trace mineral fortification to feed manufacturers can help your business to grow in '61.

For complete details, write, wire or phone us today! Ask about "The Ultra-Life Program".

Ultra-Life LABORATORIES, INC.
Main Office and Plant — East St. Louis, Illinois
One of the country's oldest and largest manufacturers of vitamin and trace mineral products.

Profit Proved Plan

FIELD TESTED & PROVEN IN USE
By Leading Feed Manufacturers!

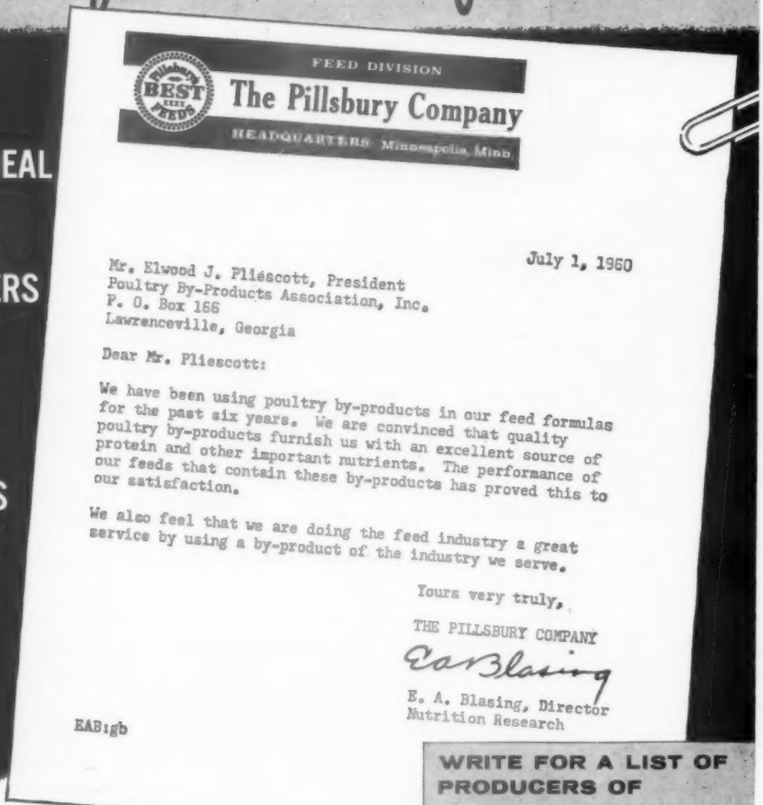
★ POULTRY BY-PRODUCTS MEAL

★ HYDROLYZED POULTRY FEATHERS

★ STABILIZED POULTRY FAT

★ BY-PRODUCTS OF THE POULTRY INDUSTRY . . .

The Poultry Industry is the user of the largest tonnage of mixed feeds in the world.



FEED DIVISION
The Pillsbury Company
HEADQUARTERS: Minneapolis, Minn.

July 1, 1960

Mr. Elwood J. Pliescott, President
Poultry By-Products Association, Inc.
P. O. Box 166
Lawrenceville, Georgia

Dear Mr. Pliescott:

We have been using poultry by-products in our feed formulas for the past six years. We are convinced that quality poultry by-products furnish us with an excellent source of protein and other important nutrients. The performance of our feeds that contain these by-products has proved this to our satisfaction.

We also feel that we are doing the feed industry a great service by using a by-product of the industry we serve.

Yours very truly,

THE PILLSBURY COMPANY

E. A. Blasing

E. A. Blasing, Director
Nutrition Research

EAB:gb

WRITE FOR A LIST OF PRODUCERS OF
Poultry By-Product Meal
Hydrolyzed Poultry Feathers
Stabilized Poultry Fat

FREE!
Pamphlet telling how you can use poultry by-products to the best advantage in your feeds. Write on your letterhead

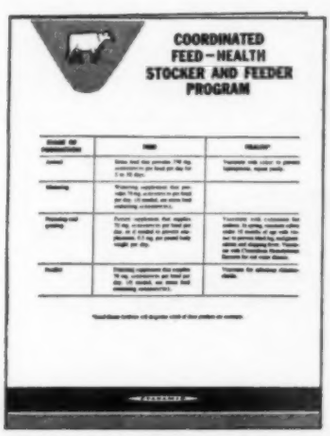
Efficiency and economy require a combination of ingredients that give you the maximum amount of energy and nutrients with the least sacrifice of precious space in the feed bag. There is no room for ingredients of low nutritive value or for ingredients that provide one needed feature at the expense of another.

POULTRY BY-PRODUCTS ASSOCIATION, INC.
P. O. Box 166, Lawrenceville, Georgia

CYANAMID HELPS YOU SELL MORE CATTLE FEED WITH A COORDINATED FEED-HEALTH PROGRAM

Right now, and in the next few months, the most important part of this program is the use of a stress feed containing disease-protecting levels of Aureomycin for newly-arrived cattle. Manufacturers, offering such a feed, build sales volume by offering today's best way to get feeder cattle off to a good start.

Those first 30 days following the arrival of cattle on the farm are critical ones. This is the period when prompt and efficient measures must be taken to give cattle *high-level health protection.*



This folder describes the step-by-step Coordinated Feed-Health Program for a stocker-feeder operation. Also available is a new booklet, "HOW TO BUILD BIGGER BEEF PROFITS," which gives complete details. Both are for distribution to your customers. For your copies, see your Cyanamid representative or write direct to Cyanamid.

Cattle need this kind of protection to offset stress and disease brought on by shipping, unloading and sorting, changes in environment and temperature, new feeds and feeding methods.

Alert feed manufacturers, serving the principal feeder cattle areas, have long recognized the urgent need for *special* cattle feeds for the critical period—and have produced such feeds in increasing volume year by year.

Many of these feed manufacturers say that the *major* factor contributing to the success of these feeds is AUREOMYCIN®. AUREOMYCIN, fed at the recommended level of 350 mg. per head per day, helps prevent shipping fever, bacterial diarrhea and foot rot. It helps get cattle on full feed fast, keeps them gaining every day they're on feed.

Shown below are the results of three trials in which feeds containing high levels of AUREOMYCIN were fed to feeder cattle which had been subjected to stresses of shipping and handling.

Recommend complete Feed-Health Program

Your stress feed containing AUREOMYCIN is an important step in a Coordinated Feed-Health Program for a stocker-feeder operation. The entire, step-by-step program is described in detail in the advertisement for cattle feeders reproduced on the opposite page.

Cyanamid's Coordinated Feed-Health Program is sound, practical, proved. Producers will find it easy to follow, profit-returning. Feed manufacturers and dealers will find it an effective new business builder. American Cyanamid Company, Agricultural Division, Princeton, N. J.

®AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.

Effect of stress levels of AUREOMYCIN on cattle gains (28-day feeding period)

	Without AUREOMYCIN		With AUREOMYCIN		Increase
	No.	Daily gain (lb.)	No.	Daily gain (lb.)	in gains
Feeder calves					
1. Fall drylot—supplement and prairie hay	83	1.05	84	1.25	19%
2. Winter range—grazing plus supplement	35	1.01	35	1.60	58%
Yearlings					
3. Spring drylot—supplement and corn silage	73	2.11	71	2.64	25%

South Dakota State College

Your prospective customers are reading the advertisement shown here. It appears in leading farm papers — 4,922,000 impressions! These customers also are listening to well-known Farm Directors tell the benefits of this Coordinated Feed-Health Program on 40 radio stations throughout the country.

HOW TO STEP-UP PROFITS FROM YOUR STOCKERS AND FEEDERS

This coordinated step-by-step program will help you market more cattle, with better bloom and quality at lower cost, to bring you higher returns

When that good bunch of calves you carefully selected arrives, you want to bring them along at lowest cost and secure highest market returns.

That's why this Coordinated Feed-Health Program was developed —to give you improved weight gains and feed efficiency; closest possible control over the visible and invisible diseases that retard growth, run up feed costs and result in lower returns.

This easy-to-follow program dovetails the use of good formula feeds containing AUREOMYCIN® and the vaccines and medications that safeguard your cattle investment.

Read each step in the Coordinated Feed-Health Program and you will see that it gives you a common-sense timetable and procedure to follow throughout every stage of your stocker-feeder operation, from arrival to market. It is practical, easy to use and, combined with good management and sanitation, *designed to help you make more money.*

Your veterinarian and feed man will be glad to discuss the Feed-Health Program with you. Consult your Agricultural College, Extension Agent or service man for up-to-date practices. Ask your feed man for a special folder which describes this program in greater detail. If he doesn't have it, write direct to American Cyanamid Company, Agricultural Division, Princeton, N. J.

®AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.

The label instructions on Cyanamid products, and on products containing Cyanamid ingredients, are the result of years of research and have been accepted by Federal and/or State Governments. Always read the labels and carefully follow directions for use.

CYANAMID

COORDINATED FEED-HEALTH PROGRAM

CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE

1. Good start important. Put newly arrived calves on a good stress feed that provides 350 mg. of AUREOMYCIN per head per day, for up to 30 days, to prevent bacterial pneumonia, shipping fever, bacterial diarrhea, foot rot and secondary infections. Vaccinate with LEBAC® to prevent leptospirosis.

2. Treat these diseases fast. If you detect shipping fever, bacterial diarrhea or foot rot among the new arrivals, treat immediately. Use SULMET Drinking Water Solution in your stock tank to mass-treat an entire bunch; for individual animals use SULMET Intravenous or SULMET OBLETS®.

3. Give turned-out cattle extra protection. Feed a pasture supplement that supplies 70 mg. of AUREOMYCIN per head per day to maintain weight gains and help prevent foot rot and respiratory infections. Treat pinkeye with AUREOMYCIN Powder or SULMET® Emulsion.

4. Set up vaccinating program. Schedule your vaccinations for infectious rhinotracheitis; for anthrax with CARBOZOO®; for leptospirosis with LEBAC®; for black leg, malignant edema and shipping fever with TRIBAC®; for red water disease with Clostridium Hemolyticum Bacterin.

5. For profitable weight gains in the feedlot. Use a fattening supplement that supplies 70 mg. of AUREOMYCIN per head per day continuously. This will help prevent the diseases previously mentioned *plus* liver abscesses, and keep feed efficiency up, weight gains above average.

6. Here's your feed-health program pay-off. This coordinated program will help you ship more cattle, with better bloom and quality at lower cost, to bring you higher returns. Follow this practical program, in cooperation with your veterinarian and feed man. *It will pay you well.*

Speaker Warns of Fast Changing Feed Industry

LOUISVILLE, KY. — "The feed business is moving ahead rapidly, and the changes we expect in several years might be on us tomorrow," was the warning here by a man who has spent a lifetime in the feed industry.

E. G. Cherbonnier of St. Louis, feed advisor for the Grain & Feed Dealers National Assn., Washington, told the Kentucky Feed & Grain Dealers Assn. convention some of the changes expected to take place in the feed industry. The title of his talk, "1970 or Sooner," stressed the immediacy of some of these changes. He emphasized the need for analyzing changes to determine whether they are fads, fancies, or facts.

"In regard to products," Mr. Cherbonnier said, "I believe that we are going to see specialized feeds for even shorter periods, especially with broilers and swine. The first broiler program that I knew anything about had one feed from start to finish. Now we have a starter, a developer, and a finisher; and we will probably have even more.

"We are also apt to see more day-to-day formula adjustments, especially with the so-called linear programming," the feed authority predicted. In this connection, he felt that the feed control officials will benefit the farmer if they go to a system of declaring only the analysis and certain critical ingredients. For an example, he referred to his visit with the British Oil & Cake Mills Co., which has a program allowing it to take advantage of fluctuation in various protein and carbohydrate sources without having to change its tag. He said British Feed Control requires only the analysis, and certain ingredients can be left out entirely if it gets too costly. Under present laws, it would be practically impossible for American manufacturers to do this.

Referring to other changes, Mr. Cherbonnier predicted that we are going to see more use of synthetic amino acids, whole soybeans are likely to come into the picture, and there will be more inclusion of feed ingredients with water. "Hay wafers," he predicted, "may eventually become practical cost-wise."

Future Changes Listed

Mr. Cherbonnier said farmers are going to pay more for services in the future. He attributed this to the fact that farms are growing larger without additional help to run them; the hired man is mainly gone, and the age of the family farmer is increasing. For these reasons, Mr. Cherbonner said the farmer is going to pay the feed man or other service agencies to do many things which he formerly did himself. He included grain banking, dealer delivery and portable grinding and mixing as examples of these increased services.

On the subject of on-the-farm mixing, increases may take place with very large units, the feed advisor stated, "but I do not think it is likely to be used where complete pelleted feeds are required, nor by the general farmer."

Mr. Cherbonnier emphasized the challenge facing a feed man to appraise the value and practicability of these and other changes. "The successful man may not be the very first to adopt them, but he certainly won't be the last," Mr. Cherbonnier stated.

"Integrity, industry and intelligence will always bring success," the feed advisor concluded, "and the acid test of a change in methods is whether it will do a better job for the farmer."

Nutrena Mills Holds Five Sales Meetings

MINNEAPOLIS — New developments and programs in animal agriculture were outlined in late August by Nutrena Feeds in five two-day regional meetings of its 165-man sales staff.

High point of the concentrated sales sessions was the naming of this year's 10 "President's Club" members by James North, Nutrena Mills president.

Named to the honorary sales organization were: Omer J. Baumhardt, Waco, Texas; George Biron, Northfield, Minn.; Dale E. Blank, Mexico, Mo.; Donald E. Boyer, Victoria, Ill.; W. C. Epperson, Coffeyville, Kansas; Dale Harlan, Hickman, Neb.; Jens E. Nielsen, Jr., Lancaster, Wis.; Edwin L. Purcell, Clinton, N.C.; Francis M. Riley, Talladega, Ala., and Otto P. Spindler, Newburgh, Ind.

The meetings held in Minneapolis, Peoria, Ft. Worth, Memphis and Coffeyville, Kansas, were headed by regional managers and representatives of Nutrena's general office staff.

"The next 12 months will see an increase in on-farm specialization and in the efficiency of animal production," officials told the sales staff. "It will be a period in which each of us will find unusually good opportunities to be of increased service and help to agri-businessmen throughout our 26-state sales area," they said.

BLAZE DESTROYS STORE

DAYTON, WASH.—Fire has destroyed the Dayton Feed and Fuel Store here, doing an estimated $12,500 damage. The blaze is said to have started in the garage section of the building, and it ran the full length of the wood-framed, metal-covered store building, fed by farm chemicals, feed and other merchandise. The loss was partly covered by insurance, according to owners Leo Peterson and Faye Startin.

DAY "AC" dust filters installed at a feed plant. When this DAY equipment is installed on hammermills it pays for itself by capturing (and returning to process or storage) up to 87% of the fines which might otherwise be wasted. If your plant produces as little as 10 tons of feed per hour and this sells for $70 per ton, DAY filters can save you up to $24,360 a year (based on selling price).

No two dust problems are identical . . . that's why it will pay you to consider DAY *engineered dust* control. Laboratory research, 80 years of practical experience and a *guaranteed approach* to efficient dust control are some of the reasons why companies of every size decide on DAY dust control. DAY offers a *complete* line of dust control equipment . . . seven types of collectors or filters — 166 different models . . . one is sure to solve your dust problem exactly, efficiently and economically.

Complete DAY service includes:

1. A field survey of the problem
2. A recommended solution
3. An engineered layout of equipment and/or system
4. Fabrication of equipment, piping, suction hoods, etc.
5. Installation
6. A GUARANTEE OF RESULTS

Whether you need equipment only or a complete system — contact DAY

FREE! HELPFUL, DETAILED INFORMATION ABOUT DAY Dust Control. Check and mail coupon toDAY. You'll receive free folders about DAY dust control equipment.

DAY SINCE 1891

equipment only or a complete system

——————CLIP AND MAIL COUPON TODAY——————

The **DAY** *Company*
819 Third Ave. N.E., Minneapolis 13, Minn.

In CANADA
The DAY Company of Canada, Ltd.
15 Brydon Dr., Rexdale (Toronto) Ontario

Please send information on:

☐ "RJ" Dust Filter ☐ "AC" Dust Filter ☐ Exhausters ☐ "HV" Cyclones ☐ Dual-Clone

NAME_____

COMPANY NAME_____

ADDRESS_____

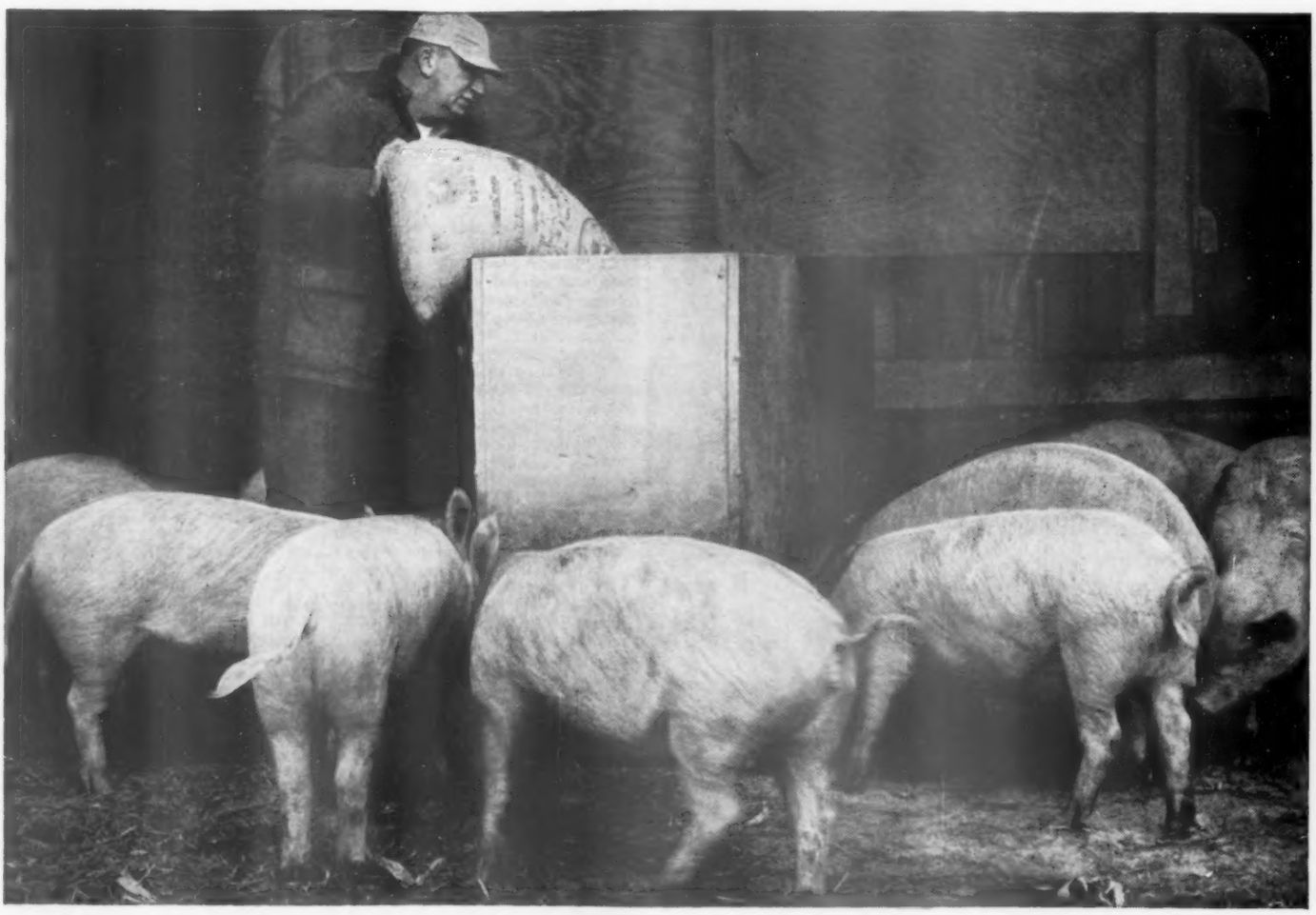
CITY_____ STATE_____

CHOICE OF THOSE WHO WANT THE FINEST . . . AT REASONABLE COST!
W-W ROLLER MILLS
HAMMER MILLS
W-W GRINDER CORP.
2957 No. Market, Dept. 311
Wichita 19, Kansas

LONFOSCO Soft Phosphate with Colloidal Clay
Prepared by: Loncala Phosphate Co. High Springs, Fla.
Distributed by: Warren-Douglas Chemical Co.
1513-15-17 Burt St., Omaha, Neb.

CHECK FEEDSTUFFS WANT ADS!!

ARE YOU GETTING YOUR DOLLAR'S WORTH OF SCOURS PROTECTION?



There are several products that will help prevent or treat outbreaks of scours (bacterial swine enteritis).

But, in all but one, the ratio between cost and effectiveness is out of line. The single exception is PRO-STREP.

PRO-STREP, an effective combination of penicillin and streptomycin, will help prevent scours at a lower cost than any other single antibiotic—narrow- *or* broad-spectrum! And, that's not all. PRO-STREP also helps stimulate appetites, promote growth and improve feed efficiency.

University tests have repeatedly demonstrated the value of a combination of penicillin and streptomycin in fortifying swine rations. The majority of published reports on this combination have been based on PRO-STREP.

That's why more and more progressive feed mills throughout the country are switching to PRO-STREP. What they want is what you want . . . an effective combination of antibiotics that can promote growth and help prevent "necro" at a lower unit cost. Merck Chemical Division, Merck & Co., Inc., Rahway, New Jersey.

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LATEST ADDITION—These bins are the latest addition in a three-year expansion program recently completed by J. H. Wake Feed Mill, Oskaloosa, Iowa. They include three Lindsay tanks for air drying grain and five Butler tanks for dried corn storage.

Iowa Firm Completes Production Expansion Program

By Al P. Nelson
Feedstuffs Special Writer

With the installation of eight outside bins during the past year, the J. H. Wake Feed Mill, Oskaloosa, Iowa, has completed a three-year expansion program which makes it one of the best equipped mills of its type in the area.

The program has involved added plant facilities which have brought more efficient production operations and better service for customers in the company's trade territory.

In addition to the recent storage addition, the newer facilities include a complete plant operation for the manufacture of the firm's Circle brand feeds in bulk. There also is an older section which does some custom work and produces bagged feeds.

The firm is owned and operated by Phil Wake and his father, James H. Wake. Much of the feed produced by the firm is sold through four retail outlets, located in Oskaloosa, Ottumwa, What Cheer and Packwood, Iowa. A large part of the business is in swine feeds.

"With our expansion program now completed," said Phil Wake, "we feel that we can now concentrate on selling and service more than formerly. Our production facilities are adequate for the production of our feed line and to handle rush periods, and we have trained personnel."

Mr. Wake notes that the firm does a good deal of custom mixing in addition to producing its branded feeds. And he says that production work can be scheduled much more effectively with two separate plant operations, each in the same building.

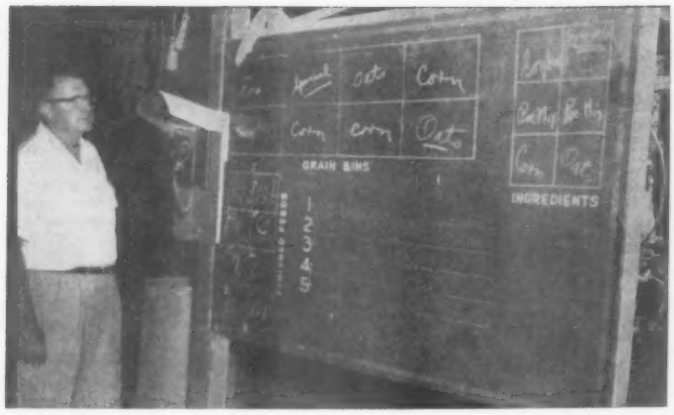
Latest Addition

The latest addition was the installation of the eight outside bins during the past year. Five Butler round steel bins have been installed alongside the railroad track across from the main mill building. These hold 12,000 bu. of corn each and are part of the Wake program for having 40,000 to 50,000 bu. of dried corn on hand for the making of the firm's Wake's Circle Brand feeds and for custom mixing.

Alongside these bins are three

WAKE PLANT — This is a picture of the original Wake mill. Expansion moves in recent years necessitated adding on in back, reaching the next street.

MILL FACILITIES—This is another exterior view of the Wake plant, showing the newer "custom" plant area in the foreground. There is a drive extending through the entire plant, from one street to the next.



BIN CHART—Phil Wake looks over the chart showing contents of grain and ingredient and finished feeds in the plant area.

Lindsay bins for air drying of corn. Two of these are of 6,000 bu. capacity each, while the third will hold 7,000 bu.

The new bins are serviced by a 65 ft. Universal elevator. Grain is distributed to the storage tanks by use of the elevator and augers. When needed for milling operations, the grain is brought in by bulk truck, but plans are for the installation of an air conveyor for movement of this grain from storage tanks to the milling operations.

New Plant

More than a year and a half ago, the Wake firm installed its new "custom" plant in a 60 by 60 ft. area in a large metal building 90 by 130 ft. The original commercial mill and a smaller plant operation were housed in this same building in a 90 by 140 ft. area, but the expansion program enlarged the building to the adjacent street.

This new production facility, including pelleting and bulk feed storage as well as grinding and mixing, is called the "custom" plant. This is for making Circle feeds in bulk. The older mill operation is called the "commercial" mixing plant. It is for bagged feeds and for custom work and includes pelleting facilities also. Bag storage is adjacent to this section. The whole plant has a drive-through area from street to street.

For bulk feeds, the newer facilities include several floor-based bins from which feed is loaded out. Also there are eight steel bins over the drive for load-out.

Howard Devine of Cedar Rapids designed the new custom plant mixing operation and also designed and constructed the batch hopper scale and the conveyors and surge bins. Operation of all gates and slides on this equipment is controlled hydraulically.

The firm has a 100 h.p. Jay Bee hammermill in the custom feed plant and a 75 h.p. Jay Bee in the commercial mill which, as noted above, is in another end of the same building. Parts for both hammermills are interchangeable, Mr. Wake points out.

A Wenger 50 h.p. pellet mill is located on the first floor in the newer custom plant, and the horizontal cooler, raised a foot off the floor, extends 30 ft. toward the central drive-in. The plant also has a Wenger Multi-Duty pellet mill which can be used for making soft pellets.

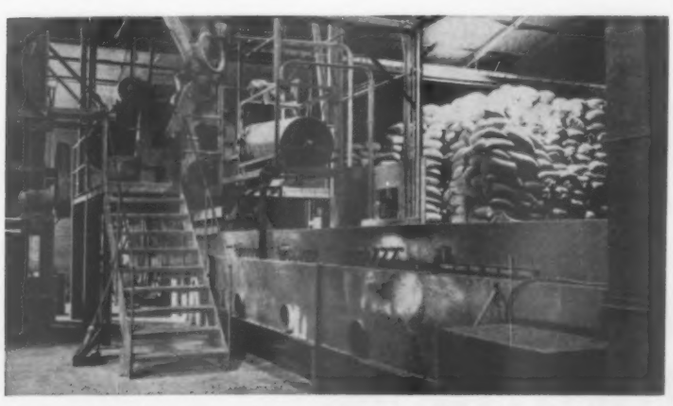
Above the mill area are eight square steel bins, each holding 1,000 bu. These are used to store grain for grinding An auger under each moves the grain into the hammermill. There also is storage for certain ingredients.

Two men are employed in producing complete swine rations in the newer plant facilities, said Mr. Wake. The firm does a large business in hog feeds, with most of the production being pelleted.

"We make most of our feeds from the ground up, using a premix, and then we also make some feeds on our own formula," said Mr. Wake.

A large bin chart in the custom

BAGGED FEEDS—Phil Wake (left) and an employee check on production and delivery of bagged feeds. The new plant section of the Wake mill makes all of the bulk feeds, while bagged feeds are produced in the older "commercial" plant.



PELLETING—This picture shows Wenger pelleting and cooling facilities in the new plant section of the Wake mill. Pelleted swine feeds which go out in bulk are made in this area.

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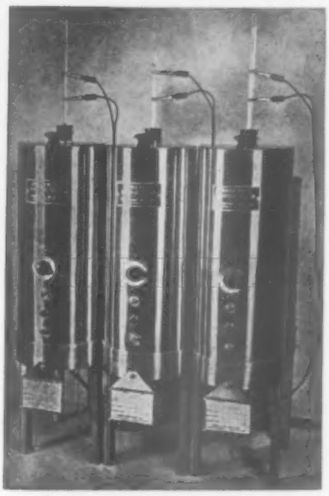

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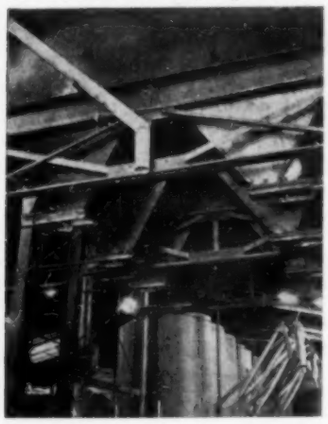


BULK FEEDS—Inside the mill are bins for holding and loading out finished feeds. These include eight 12-ton overhead bins containing Circle brand feeds. Also, as shown here, there are floor-placed tanks from which crumblized feeds and special mixes are augered into trucks.

plant informs employees just what grain and ingredients are kept in various bins. Finished feed bins also are on the chart.

As noted above, there are tanks and bins alongside and over the drive for loading out bulk feeds. This includes the floor-based eight-ton tanks with separate augers. These inside tanks hold crumblized feeds and special mixes. The overhead bins each hold 12 tons.

While most of the hog feed is delivered in bulk, the custom plant section does have one five-ton tank of 12% hog ration from which sacking may be done. This tank of feed is kept here for the convenience of some farmers who may have a few hogs to feed after selling part of the herd and who do not need larger amounts. Since the custom plant section makes all the hog feeds, the logical place for this special service tank is in this area, Mr. Wake notes.

Commercial Mill

The "commercial" mill department includes, in addition to the hammermill, a 2-ton Prater mixer, a 2-ton Haynes mixer, a Sprout-Waldron pellet mill, Richardson automatic bagging equipment and a Winborn sewer.

This year, Mr. Wake points out, the firm installed four round Butler bins for ingredient storage and installed an under-the-rail pit and auger to feed into a 75 ft. Strong-Scott elevator to fill the bulk ingredient bins.

Each storage tank holds 55 tons. These tanks hold linseed meal, meat scraps, middlings and soybean meal for use in the commercial mill. Weigh buggies are used in the commercial mill operation.

The commercial mill, in addition to making certain feeds, is used to make a protein, vitamin, mineral and antibiotic premix that is used in bulk in the custom plant for manufacture of the firm's 16, 14 and 12% complete pelleted swine rations, plus use in custom mixing work with farmers' grain.

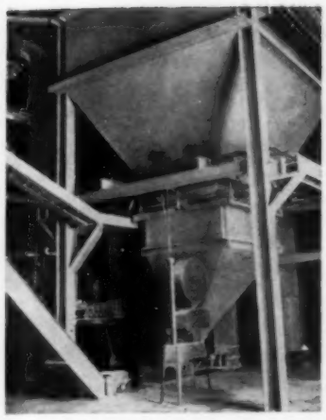
"Since sacked feeds are a small part of our total feed production," said Mr. Wake, "we make them in the commercial plant and sack them there. All bulk feeds of our own make are produced in the newer custom plant."

Ordering materials for the two plants is handled efficiently. The foreman of each division turns in a feed inventory list each night, plus a list of the feeds made that day, and also a list of ingredients on hand. Phil Wake sets up the production program for the following day for both divisions and orders the necessary supplies to replace used inventory.

Additive Storage

Aware of Food and Drug Administration regulations on drugs, Mr. Wake has made special provision for storage of drug materials. Recently the firm built a separate wired-enclosed room for antibiotics and other materials, as recommended by FDA.

ADDITIVE STORAGE — A wire-enclosed room in the Wake plant was set up for storage of various drugs and additives for feeds. This is to comply with FDA requirements for special additive storage space.



BATCHING — The new mill section of the Wake plant includes this set-up for batching bulk ingredients.

Much of the Circle Feed production of the Wake plant goes to the firm's four stores. About 90% of the feed produced by the company is sold through these four retail outlets.

Each store is operated by a manager on a straight salary basis. The individual stores have 6-ton Pamco bulk trucks, plus a box delivery truck. The trucks call at the Oskaloosa plant for their orders. The plant at Oskaloosa has two bulk trucks, a 7-ton Baughman and a 12-ton Simonsen.

"We have two resale men who work in the territory covered by our stores," said Mr. Wake. "These men are trained in livestock management and nutrition and in service, as well as in selling. There is no longer such a fellow as an outside feed salesman. He needs to be much more than that today to meet nutritional needs and competitive conditions. We work with our two salesmen to keep them well informed on our feeds and policies."

The farmer who buys supplements or concentrates in bulk gets a $5 per ton discount. There is a $3 discount on complete feeds in bulk. If the farmer picks up his concentrates or supplement at the plant, he gets a $2 discount. All prices are quoted delivered.

About 70% of the Circle Feeds sold go to hog raisers, Mr. Wake noted. The average load that goes to such a customer is 4 tons, and some get 6 to 8 tons. Trucks have 2-ton compartments, so discount rates can be set up on 2-ton lots. The firm has no cash discount on feeds. Payment for feed sold is due within 30 days. The hog feed customer who wishes credit may obtain it if he has a good credit rating. He can finance the feed, with interest at 6% beginning after the 30 days. The company handles its own finance paper.

The company operates its production facilities with two men in the custom plant and six in the commercial plant, plus truck drivers.

With the expansion program now completed, with an efficient plant operation, and with strategically located retail stores with bulk facilities, the firm is now able to serve its territory effectively.

Gain in Cattle Numbers Ahead

WASHINGTON—A modest gain in beef cattle and calf numbers is in the hopper this year, so it follows that the business of beef production can continue to provide a substantial feed consumption outlet.

The U.S. Department of Agriculture says in its August livestock and meat situation report that when the grand total is added up at the end of this year, the Jan. 1, 1962, count of cattle and calves probably will be about 1 million more than the record 97.1 million head that were in inventories on Jan. 1, 1961.

USDA points out that the number of cattle and calves on feed July 1 was 2% larger than on the identical date a year earlier.

Cattle feeding this fall and winter is expected to continue large and close to a year earlier.

The 1960-61 feeding season was far from ideal; returns over costs in a typical Corn Belt feeding operation were down considerably in comparison with recent years. It's hard to say just what the 1961-62 season will bring in this respect. USDA looks for fed cattle prices this fall to average slightly lower than a year earlier, but, barring an unexpected worsening in range feed conditions in the West due to drouth, a seasonal decline in feeder cattle prices is in prospect for this fall.

USDA says two of the conditions in the current cattle cycle make it different from previous cycles. These are: (1) The increasing proportion of the cattle herd kept for beef, and (2) the increase in fattening of cattle on grain and other concentrate feeds.

The number of beef animals on feed in 26 states, for which quarterly estimates have been available since Oct. 1, 1959, shows a consistent uptrend in feeding.

In the current cattle cycle, the emphasis on beef production has meant a substantial increase in per capita consumption of beef. It has advanced from 80½ lb. in 1958 to 86 lb. in 1961.

Poultry Clinic Set

CLEMSON, S.C. — Clemson College's second Poultry Servicemen's Disease and Diagnostic Short Course will begin Sept. 19, according to Dr. B. D. Barnett, head of Clemson's poultry department.

The course will be conducted by Dr. B. W. Bierer at the livestock and poultry health department laboratories at the Sandhill Experiment Station, near Columbia, S.C.

"This short course is designed to provide intensive training in poultry health problems," said Dr. Barnett. "Special emphasis will be given to autopsy of diseased birds."

Additional information is available from Dr. Bierer and Dr. Barnett.

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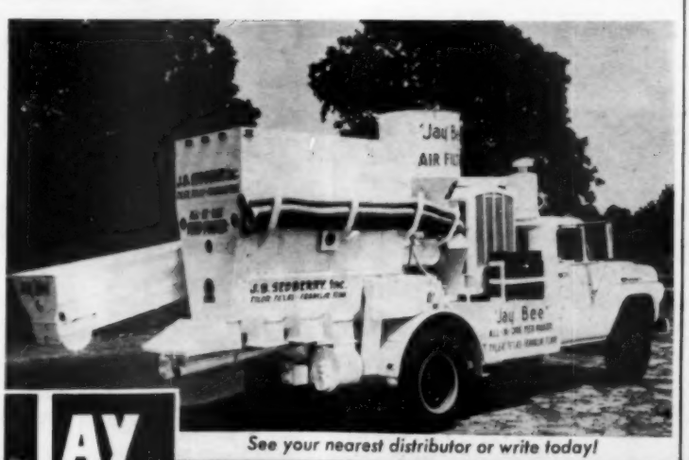

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"Put a pencil to it. With 1,500 head of cattle per year and an extra ½-pound daily gain . . . we get more than 100,000 pounds of extra beef just by using Stilbosol.

"As I said before, we wouldn't be feeding Stilbosol if it wasn't making us money."

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Eastern States Co-op Decentralizes Its Management, Staff

WEST SPRINGFIELD, MASS.—A decentralization of management and staff activities has been announced by Eastern States Farmers Exchange, Inc., here.

The co-op has divided its territory into eight areas and established in each of them an office as headquarters for a management and service team responsible for operations within the area, according to a report in an Eastern States publication.

In a statement to members, the cooperative said, "To you, the Eastern States member, it means the services you use are directed by a manager whose desk is close enough for you to drop in and pull up a chair beside it and discuss Eastern States matters person-to-person. Also, the assistance you may call for from commodity specialist is now available from a staff that devotes its attention to the particular needs of the area to which it is assigned. Shortening the distance from your farm to the control center of the service you need, of course, saves precious time, reduces travel expense and increases the frequency with which you and your neighbor members are likely to be in contact with your cooperative's employees."

In reorganizing its managerial staff, Eastern States says it has established two new divisions—area services and commodity services—and these plus the production division are under the direction of William H. Prigmore, assistant general manager. Paul E. Grubb, formerly manager of feed distribution, is director of area services and Hugh R. McCann, previously manager of field service, is administrative assistant for area services. There are eight area managers who report to the director of area services.

Staff Posts Cited

In addition to managers, these area staffs include an operations manager and managers for feed, crops and farm supplies. Eastern States points out that the latter are specialists in commodities and that it is their job to train fieldmen, service center employees and local representatives in commodity information, servicing and using Eastern States supplies. They also provide counsel on special problems members encounter in the procurement or use of the supplies they supervise. The area's operations manager has charge of the service centers and the working relationships with local representatives. He also manages the area's office and serves as its personnel officer.

In addition to his headquarters staff, each area manager is assisted by five or six fieldmen assigned to districts within his area, the co-op said. The announcement said, "The work of the fieldman has been changed from commodity specialization to all-around servicing of Eastern States supplies . . . and, in some instances, they will assist market operations. Field districts have been adjusted in size so that fieldmen drive fewer miles and make more farm calls per day or week.

"We are looking forward to the new district set-up with great enthusiasm and feel certain the achievements in improving member service in general will be beneficial to farmers and Eastern States," said W. D. Milsop, Eastern States general manager.

COSTS OF STATIONARY, MOBILE MILLING COMPARED

WASHINGTON—The U.S. Department of Agriculture reports that farmers can now compute the comparative costs of having livestock feed ground and mixed at stationary mills and with mobile mills by using a cost analysis method presented in a USDA report.

Researchers of USDA's Economic Research Service interviewed farmers and operators of custom feed grinding and mixing services in 21 counties of northwestern Illinois, the announcement said. This 10-page, preliminary report of their survey was prepared to describe some of the equipment used, services performed and charges made for both stationary and mobile mills.

USDA says the study is part of a research program to reduce the cost of producing farm products.

A copy of the report, "Custom Feed Grinding and Mixing in Northwestern Illinois: Preliminary Report," ERS-12, may be obtained from the Information Division, Agricultural Economics, U.S. Department of Agriculture, Washington 25, D.C.

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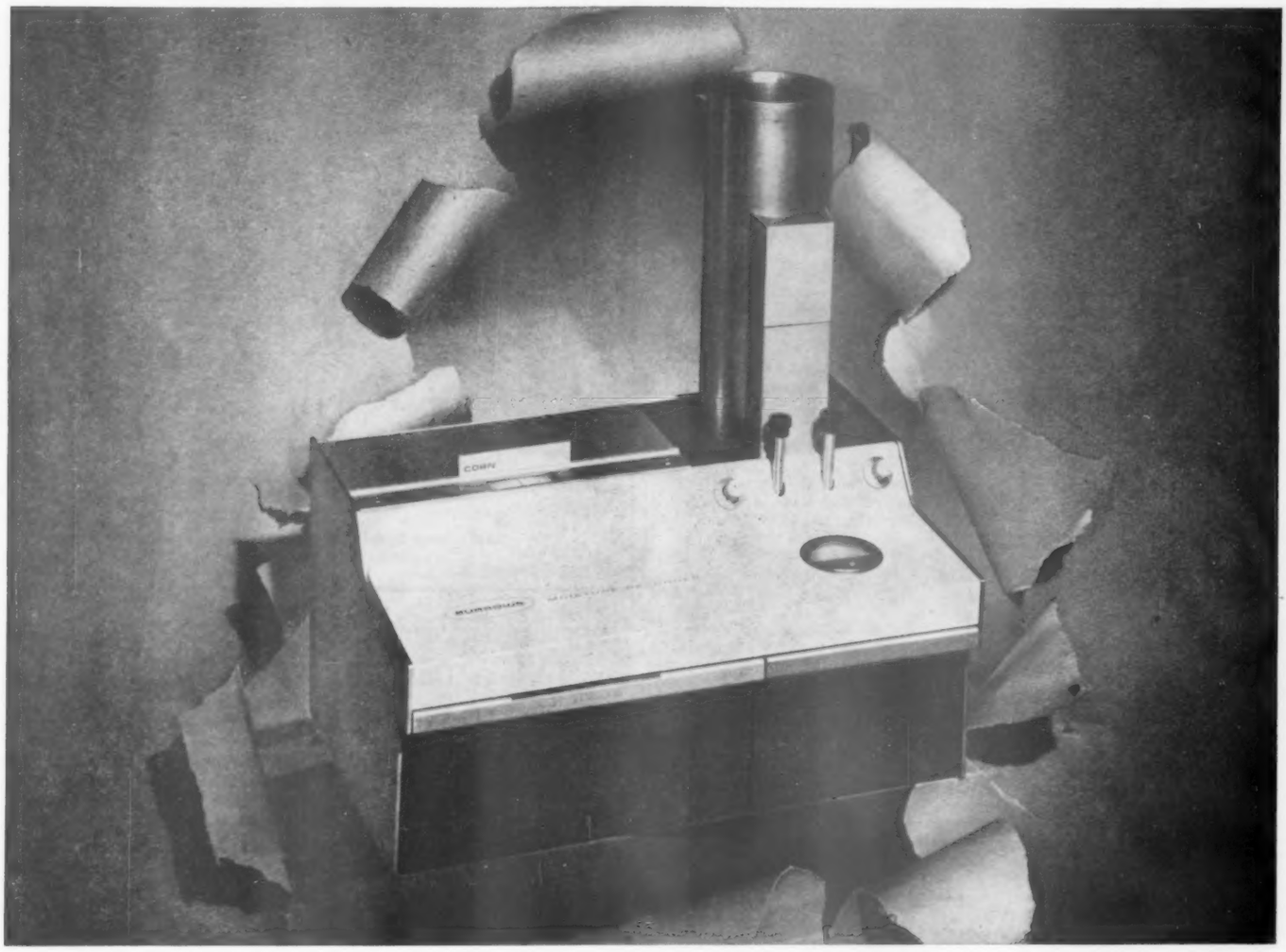

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HESS & CLARK FILM—The first copy of the film ". . . And This Little Piggy Had None," a Hess & Clark sound film telling how nitrofuran drugs have helped to improve swine production, was presented to W. E. Seay, University of Kentucky (second from left) by B. E. Earhart, manager, feed products division, Hess & Clark, Ashland, Ohio. At far left is Dr. W. P. Garrigus, University of Kentucky, and at far right is Stuart Hallock, producer of the movie and director of radio, TV, films department at the University of Kentucky. The presentation was made at an official premier showing of the movie at the Kentucky campus. (Feedstuffs, Aug. 26)

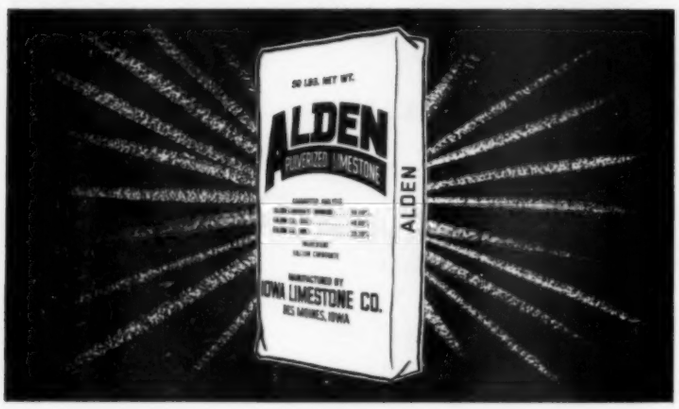
Cooperation with Veterinarians Urged

DETROIT, MICH.—Feed industry livestock nutritionists and practicing veterinarians can make an important contribution to livestock industry progress by expanding their relationships with each other in work with livestock producers, Dr. John B. Herrick, extension veterinarian at Iowa State University, Ames, told American Veterinary Medical Assn. members at their annual meeting here.

Dr. Herrick pointed out that the veterinarian sees livestock under various stress conditions. The feed animal requires under stress is different than that required by a normal animal.

Dr. Herrick's discussion was presented before the American Association of Veterinary Nutritionists, a subdivision of the American Veterinary Medical Assn.

He suggested that the veterinarian and feed company representative or nutritionist work more closely together in the field as cooperators in consultation work with livestock producers. This cooperation, he said, could advance the progress of many animal health improvement programs.



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Used by dairymen to absorb moisture, reduce odors, give cows more sure footing on slippery floors, and enrich manure. Packed in colorful 50-lb. paper bags. Regular, coarse, and extra coarse.

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DES MOINES, IOWA
STANDARD OF SERVICE & QUALITY SINCE 1924

SELLIN' SAM **By Jim Zilverberg**

"All I know is that he said if he saw one more salesman he'd blow sky-high!"

Drug Use in Feeds For Turkeys Outlined

ST. PAUL—Based on an explanation provided by the Food and Drug Administration, Minnesota's director of feed and fertilizer control has issued a notice to the state's turkey feed manufacturers outlining drug combinations now permitted by FDA in turkey feeds for prevention of coccidiosis and blackhead.

The state official, R. E. Bergman, said he queried FDA "because turkey feeders have attempted to obtain a finished ration which would contain a combination of active drug ingredients for the prevention of coccidiosis and blackhead in turkey feeds."

FDA replied, in part: "We would have no objection to a medicated feed containing a combination of .011% furazolidone and .0125% to .025% sulphaquinoxaline where claims were made for the prevention of coccidiosis and blackhead. A medicated feed containing the above combination, along with a certifiable antibiotic is not sanctioned since there is no effective regulation under 146.26 permitting such usage. We would have no objection to a combination of furazolidone plus sulfaquinoxaline plus a nutritional level of oxytetracycline (a non-certifiable antibiotic)."

Mr. Bergman suggested that feed manufacturers give special attention to the following points:

"1. A certifiable antibiotic, such as chlortetracycline, bacitracin, penicillin, streptomycin, etc., and derivatives thereof, cannot be used with the furazolidone - sulphaquinoxaline combination at any level. Antibiotic regulations do not permit the use of any amount of a certifiable antibiotic with this drug combination.

"2. Oxytetracycline (a non-certifiable antibiotic) can be used with this drug combination only at a nutritional level which is below 50 gm. per ton of oxytetracycline in the finished ration.

"3. The combination of furazolidone and sulphaquinoxaline without a certifiable antibiotic, and sulphaquinoxaline and furazolidone with the nutritional level of oxytetracycline will not require new drug applications."

Mr. Bergman said in concluding his notice to manufacturers, "These are the only combinations now permitted by FDA for a finished ration claiming prevention of both coccidiosis and blackhead. Note, however, that there are several other drugs and drug combinations that can be used when claims for prevention of only coccidiosis are to be made; also when only claims for prevention of blackhead are to be made."

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Chemical solubility and biological feeding tests conducted by independent research laboratories have proved that "all defluorinated phosphates are not alike."

But are all dicalcium phosphates alike?

A comprehensive chemical and physical analytical study of Smith-Douglass DIKAL and two competitive products was recently concluded by Cox and Gillespie, Chemists and Chemical Engineers, Richmond, Va. Their report, covering analyses and comments, follows:

Comments by Cox and Gillespie

1) DIKAL as compared to Sample A:

a) The relatively high magnesia content of Sample A (3.56%) resulting in high magnesium phosphate and magnesium carbonate is not thought to be due to impurities in limestone, but to other magnesia which has been added to raise the phosphorus solubility. Unreacted calcium carbonate and magnesium carbonate are high.

b) DIKAL has a higher dicalcium phosphate content.

c) DIKAL has a lower apatitic phosphate content. Apatitic phosphates are highly insoluble.

d) DIKAL has a higher total phosphorus (phosphate) content.

e) The phosphate in DIKAL is more soluble.

f) The titration curve shows DIKAL to be buffered—therefore will retain its solubility.

g) DIKAL is "not loaded" with magnesia—its solubility is due to chemical processing. It contains very limited amounts of unreacted limestone or magnesia.

h) DIKAL is more uniform in granulation and it has a granule hardness more resistant to abrasion.

2) DIKAL as compared to Sample B:

a) Sample B has a high aluminum phosphate (6.44%) and an iron phosphate above that of DIKAL. The unreacted limestone (calcium carbonate) is much higher (10%). The total *calcium phosphates* (mono and di-) are much lower than DIKAL—62% in comparison with 71%. The apatitic content is higher.

b) Irrespective of the unfavorable chemical comparison between sample B and DIKAL—the physical comparison is more so. In every respect, Sample B is inferior . . . including an off color and odor. The acid insoluble shows much carbon.

c) The physical advantages of DIKAL are most apparent—odor, free flowing, hardness of granule, uniformity of particle.

d) DIKAL has a higher di-calcium phosphate content, is more soluble, has lower apatitic phosphate, and a higher total phosphorus and calcium.

e) DIKAL is lower in the impurity iron phosphate, and much lower in aluminum phosphate.

f) DIKAL is substantially lower in unreacted "limestone."

g) DIKAL has less "free carbon"—shown by color and acid insoluble.

In conclusion, DIKAL is significantly more soluble than competitive products tested. Conversely, DIKAL has one-third to one-half less insoluble phosphate.

Samples represent commercially available products and are designated in the same manner as in the recently published "Phosphorus Availabilities as determined by Assays conducted by the Lime Crest Research Laboratory, Newton, New Jersey" (copies available upon request).

	Competitive dicalcium phosphate A (produced from "electric furnace" phosphoric acid)	Competitive dicalcium phosphate B (produced from "wet process" phosphoric acid)	Smith-Douglass DIKAL
Dicalcium Phosphate, $CaHPO_4$	49.78%	49.43%	63.57%
Monocalcium Phosphate $Ca(H_2PO_4)_2$	9.68	12.51	7.33
Apatitic Calcium Phosphate*	1.31	1.07	.41
Calcium Carbonate $CaCO_3$	17.68	9.78	5.73
Magnesium Phosphate $Mg(H_2PO_4)_2$	13.46	4.09	3.98
Aluminum Phosphate $AlPO_4$	.02	6.44	2.54
Iron Phosphate (Ferric) $FePO_4$	.04	5.44	4.35
Disodium Phosphate NaH_2PO_4	Trace	.41	1.64
Magnesium Carbonate $MgCO_3$	2.29	.34	.18
Calcium Sulfate $CaSO_4\ 2H_2O$	Trace	7.16	7.07
Sodium Fluosilicate Na_2SiF_6	None	.03	.26
Calcium Fluoride CaF_2	.06	None	None
Sodium Chloride, NaCl	None	None	.04
Free Phosphoric Acid	.14	.12	.16
Unreacted Silica and Carbon	1.08	.70	1.21
Moisture and Water of Crystallization**	4.46	2.48	1.53
	100.00	100.00	100.00

*Apatite content is arbitrary and approximate.
**Water of crystallization is by difference.

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Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Effect of Heat Drying Upon the Nutritive Value of Corn

● C. W. Carlson and H. L. Winterfield, South Dakota Agricultural Experiment Station, Poultry Science, Vol. 40, No. 4, pp. 991-995, July, 1961.

ABSTRACT AND COMMENT

With the use of corn combines and other modern methods of harvesting corn, high moisture corn is often harvested and must be dried down to proper storage moisture levels. As yet, no investigations have been reported, to date, as far as I know (SHM), on the effect of such drying on the feeding value for poultry. However, there is some work already reported with other species of animals. The Nebraska workers (1960) fed corn dried at 190°F. to fattening cattle and concluded that there was no injurious effect produced by the drying. Likewise, Illinois researchers (1955) previously had demonstrated no adverse effects with artificial drying (180°F.) of 30% moisture corn down to a 16% level. The same story also has been reported for swine by Jensen et al. (1960) with corn dried at varying temperatures (140° to 220°F.). On the other hand, with rats, it has been reported that weight gains were inversely correlated with drying temperature of corn from 80 to 240°F. (Hathaway et al., 1952). It was with this background in mind that the South Dakota workers investigated the effect of various corn drying temperatures upon its nutritive value in one experiment with chicks and two with rats.

High-moisture corn from one source (initial moisture content 21%) dried at temperatures varying from 70 to 250°F. was incorporated into complete diets fed to chicks and rats. High moisture corn from another source (initial moisture content 26.7%) was dried at temperatures of 70 to 450°F. and fed in similar diets to rats (trial 3). The results of the experiments show that drying temperatures as high as 250°F. in the case of chick diets and as high as 350°F. for rats caused no effects on results despite a mild scorching of the grain produced at the higher temperatures. However, when the corn was severely burned (450°F.), a significant reduction in weight gain and a trend towards reduced feed efficiency occurred. Thus, we do not need to be concerned about use of properly dried corn from corn driers.

◆

Timely and Worth Noting

In the July issue of Poultry Science (Vol. 40, No. 4, pp. 1068-1097; pp. 1106-1117) appears a series of articles from the Oklahoma Station which will be of widespread interest to most feedmen. The papers are quite extensive and deal with fundamental investigations into various aspects of energy and protein relationships in turkey diets. The titles of the articles are:

(1) The Effect of Dietary Energy on the Protein Requirements of Growing Turkeys.

(2) Energy and Protein Interrelationships in Turkey Grower Diets.

(3) Daily Nutrient Intake as a Basis for Formulating Turkey Starter and Grower Diets.

(4) Effect of Dietary Lysine on Free Amino Acid Concentrations in Blood Plasma of Growing Turkeys.

Space does not permit a full and detailed review of all the facts presented and the reader is encouraged to delve into them as there is much good information presented. Certain overall conclusions from the experiments are well worth noting:

Paper 1—(1) Diets used were above normal recommendations to permit maximum expression of the genetic potential of the birds.

(2) Under the experimental conditions, using a semi-synthetic diet, it was found that maximum growth rate for male birds was at a dietary protein level of 33% and a Calorie:protein ratio of 55:1 (metabolizable energy). Most efficient feed conversion was at the same Calorie:protein ratio at a protein level of 36%.

(3) For females a dietary level of protein of 28% at a Calorie:protein ratio of 55:1 (metabolizable energy) appeared to be best. Further work is indicated concerning the responses with females, however.

(4) The nutritive requirements for protein and energy during the first eight weeks of life are very critical and those currently recommended for practical diets are inadequate and do not permit maximum expression of results. Also, it is apparent that the sexes should be separated as day-old poults and fed different types of diets.

Paper 2—(1) Utilizing a semi-purified diet, 12 lb. hens were produced in 19 weeks on 2.1 lb. of feed per

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pound of gain, and 24 lb. toms were marketed at 24 weeks on 2.3 lb. of feed per pound gain.

(2) The length of time required for hens and toms can be reduced markedly by properly formulating rations, in the case of hens—by one week, and for toms—by two weeks. Incidentally, the use of an electronic "brain" has greatly aided the research in poultry diets at Oklahoma.

(3) The growing turkey does not have a good ability to balance its own protein and energy intake. Thus, the use of mash and grain fed free choice is probably not the best practice for top results, if costs of complete rations can be held down.

(4) Further confirmation of the fact that hens and toms should be reared separately was secured.

Paper 3—(1) Using the data secured from paper 2 as the nutrient standard and placing the data in an electronic "brain", a series of starter and grower diets were formulated utilizing "practical" ingredients.

(2) Using this technique, market weight toms with an average of 24 lb. were produced in 21 weeks on 2.33 lb. of feed per pound of gain. Market weight hens with an average body weight of 12 lb. were produced in 16 weeks on 1.95 lb. of feed per pound of gain.

(3) The advantages in body weight and in gain per bird per day attained during the first eight weeks of the growing period in this trial were maintained during the remainder of the growing period and were responsible for the reduction of time required to reach market weight. This is a different result than has been reported by other investigators when diets were not formulated to take advantage of the full growth potential of young birds.

(4) The particular nutrient standards used as basis for formulating the diets appeared to be inadequate after eight weeks of growth as was shown by the variable gains secured by birds after this period.

(5) The particular diets which gave the best results were too costly (approximately $9 cwt.) for practical use, but it is pointed out that the method can be used in the formulation of practical diets. The formulation of practical rations based on the principles will merely result in increasing the feed required to produce a pound of gain and will also increase the time to market. It is also pointed out that if proper calorie to protein ratios are followed for each period of growth that it is possible to formulate much more efficient rations than most commonly used today in commercial practice. True, these diets will cost more, but when feed savings and marketing time savings are considered the financial results to the grower should be better. Commercial firms cooperating with the Oklahoma Station have already reported very good results using this method of formulating turkey diets (see Feedstuffs, 33, No. 16, p. 76, 4/22/61).

Paper 4—(1) Using diets containing 36% protein and 1754 Calories of metabolizable energy and formulated to contain various graded levels of lysine (2.17, 2.47, 2.77, 3.07, and 3.67%), it was found that there were essentially no differences in growth rate and feed efficiency among poults receiving the various lysine levels. Poults weighed an average of 6.2 lb. with 1.47 lb. of feed required per pound of gain.

PLAN NEW HAMPSHIRE POULTRY EVENT—New Hampshire poultry servicemen and University of New Hampshire poultry department members met recently in Durham, N.H., to plan the annual New Hampshire Poultry Health Conference for 1962. Dates for the event, which will feature discussions on the latest developments in poultry disease control, are Jan. 31-Feb. 1.

Present at the recent planning meeting were, left to right, front row: Arthur Hurd, Granite State Feeds, Greenfield, N.H.; Harold Taylor, Eastern States Farmers Exchange, East Barrington, N.H.; Dr. A. C. Corbett, UNH, Durham; Dr. A. H. Tepper, Merrimack Farmers Exchange, Concord, N.H., and Walter Staples, Cobb's Pedigreed Chicks, Inc., Concord, Mass.

Pictured left to right in the second row are: Ronald Sherburne, H. K. Webster Co., Salem, N.H.; Richard Ford, Wirthmore Feeds, Durham, N.H.; Dr. Robert Dunlop, UNH; Kenneth Stevens, Ralston Purina Co., Candia, N.H., and Thomas Danko, Merrimack County Extension Service, Concord. Left to right in the third row are: Dr. Richard Strout, UNH; Thomas Mahoney, R. C. Durgin, Inc., Newmarket, N.H.; Roger Clement, Beacon Milling Co., Manchester, N.H.; Emery Peacock, Unity Feeds, Portsmouth, N.H.; Dr. W. C. Skoglund, UNH.

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Fight cancer with a checkup—and a check to the **American Cancer Society.**

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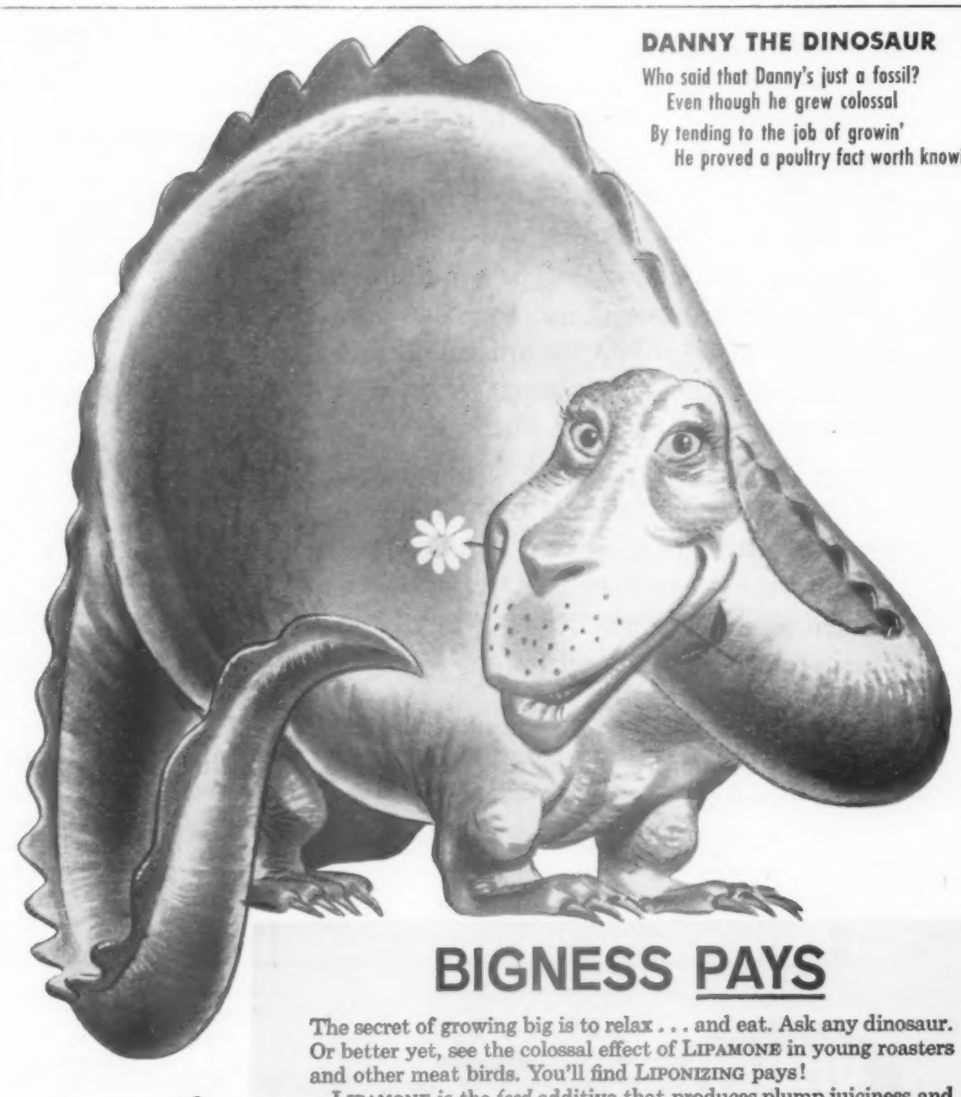
Even though he grew colossal
By tending to the job of growin'
He proved a poultry fact worth knowin'...



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Our 35 years' experience in biocatalytical research has resulted in the only product with full quality control. Nopgro is uniform—a standardized product with known enzyme and other growth promoting activity in every batch.

BASIC FACTS ABOUT A RECENT UNIVERSITY* TRIAL

*Name on request

Number of steers: 24 (6 per lot)

Breed: Black Angus

Length of study: 140 days

Basal Ration: Low-moisture corn and cob meal; good alfalfa hay; plus the following protein and mineral supplement, fed at the rate of 1 lb. per head per day:

	(percent)
50% soybean oil meal	71.0
66% dry molasses product	10.0
Wheat bran	10.0
Dicalcium phosphate	5.0
Ground limestone	2.50
†Diethylstilbestrol premix	1.0
Trace mineral premix	0.25
‡Vitamin A and D_2 premix	0.25

†Supplies 10 mg of diethylstilbestrol daily

‡Supplies 5000 USP units of vitamin A and 1000 of D_2 per pound of supplement

Average protein content of total ration: approx. 10.5%

SUMMARY OF IMPROVED PERFORMANCE DUE TO SUPPLEMENTAL NOPGRO

Lot No.	Level of Nopgro Fed (lb./head/day)	Avg. Daily Gain (lb., 140 days)	Average Feed/Gain Ratio	Increased Response due to Nopgro (%)	
				Gain	Feed/Gain Ratio
I	None	1.90	11.48	—	—
II	.005	2.10	10.69	10.0	6.9
III	.010	2.17	10.68	14.1	7.0
IV	.020	2.04	11.06	7.0	3.6

Note: Although the response due to Nopgro was highly significant, average daily gain and feed conversion in this test were adversely affected by unfavorable weather conditions.

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REMARKS ON RESULTS OF THIS UNIVERSITY EXPERIMENT
—and economic summary

A substantial improvement in average daily gain and efficiency of feed utilization was noted in all three enzyme-supplemented lots as compared with the negative control. Optimum performance was observed at an input rate of .01 lb. of Nopgro per head per day. The dollars-and-cents value of the superior showing made by Lot III is given in the economic summary following.

Economic Summary

The information above reveals an increased profit of $5.04 per head as a result of feeding Nopgro (.01 lb. per head per day). Below are the calculations from which this figure is derived.

(1) Improvement in average daily gain (0.27 lb. per head per day) x number of days on test (140) = 37.8 lb., **increased live weight per animal.**

(2) Increased live weight per animal (37.8 lb.) x arbitrary market value ($25 per cwt)=$9.45, **gross improvement in market value per animal.**

(3) Average daily feed intake for Nopgro cattle (23.21 lb.) less average feed intake for control cattle (21.86 lb.)=1.35 lb. per head per day **extra feed intake for Nopgro-fed animals.**

(4) Increased daily feed intake for Nopgro lot (1.35 lb.) x number of days on test (140)=189 lb., **total increase in feed intake for each animal** receiving supplemental Nopgro.

(5) Total increase in feed intake for Nopgro-fed cattle (189 lb.) x approx. value of composite ration=$4.41, **total extra feed cost per Nopgro-fed animal.**

(6) Gross increase in market value of Nopgro-fed animals ($9.45) less extra feed cost ($4.41) =$5.04, **increased profit per head due to presence** of Nopgro in the ration.

We now have a complete report on the above trial and those of other universities and commercial feedlots. For a round-up of all information on Nopgro, send the coupon.

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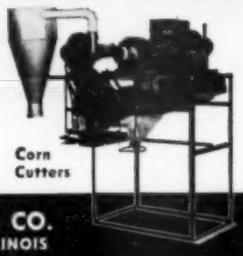

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Texas Area Notes Decline in Cattle Feeding Operations

By Special Correspondent

PLAINVIEW, TEXAS — The high price of feeder cattle plus uncertainty over the government feed program have caused a decline in the cattle feeding industry in this area, some feeders say. Local feeders say their yards are only partially filled, and there is no intention of increasing the number for the next few weeks.

A year or two ago this area loomed as one of the major cattle feeding sections of the nation. The climate was ideal, the county was one of the country's leading grain sorghum producers and stock cattle were plentiful because of the nearness of the big ranches.

"I think too many people went into the business everywhere," said Joe King, who is co-owner of the Plainsman Feed Yards. "An oversupply of heavy cattle softened the fat cattle market, while the price of feeder cattle has gone up about $3 cwt. We are using a watch-and-wait program right now to see what will happen. At one time we had 2,500 cattle on feed; now we're down to about 700."

Mr. King says feed prices are higher than a year ago. This has brought concern to feedlot operators who do custom feeding, because they usually quote the customer a feed price for the length of the entire feeding period, which is from 120 to 150 days.

"We have done some custom feeding," he said, "but are turning down applications now. Feed prices might be much higher before the cattle would be finished, and there would be no profit left."

The present situation has also reduced the number of cattle in small feedlots; however, these operators normally feed very little in the summer months.

Some observers say that the low-profit periods will drive the small feeder out of business. He cannot operate as efficiently because cattle feeding is just one of many jobs around the farm, according to some authorities.

Others claim the small feedlots will increase in the high-producing grain areas. J. C. Callahan, manager of the Wilson Grain Co. in Plainview, thinks the small cattle feeders can use their maize to good advantage in feeding.

"I believe the small lots will fill up this autumn," he said, "because these farmers can use their farm labor during the winter months, and they can also grind and mix their grain right on the farm. When the market looks better, I think there will be several other lots built, some of which may not hold over 50 or 100 head of cattle."

The Wilson Grain Co. supplies many feeders in this area with a protein supplement.

"We won't start booking orders for a while yet," Mr. Callahan said, "but I don't believe the price situation will affect our volume much. We believe the present slump will adjust itself in the next few months."

Poultry Co-op Says Tonnage Increased

HAYWARD, CAL.—Hayward Poultry Producers Assn. here reports that its tonnage and dollar volume on feed increased during the period through July 31.

Total dollar sales for the period came to $2,400,000 compared with $2,050,000 a year earlier and $1,950,000 through July 31, 1959. The association says feed production increased from 18,000 tons in the period through July 31, 1959, to 23,000 tons through July 31, 1960, and to 28,000 tons through July 31 this year.

Margins per ton in labor and efficiency have been increased and the association says it is on the way to giving record returns to its members.

The cooperative states that its volume should increase even faster when figures from the Rio Linda, Cal., operation are included in the total organization report. The Rio Linda association recently voted to become a part of the Hayward Poultry Producers Assn.

Cash Discounts Gain

HAYWARD, CAL. — Hayward Poultry Producers Assn. reports that its program of a 1% cash discount on feed purchases by members is gaining favor.

The cooperative said its program requires producers to have all accounts receivable paid in full and allows 1% discount for all feed purchases paid for within 96 hours or four working days from the date of purchase.

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- Fowl Cholera
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*due to Terramycin-susceptible organisms

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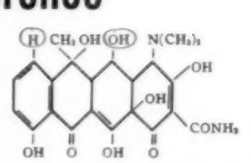

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CIBA Buys Farm for Expanding Research

SUMMIT, N.J.—Purchase of a 50-acre farm in Hillsborough Township, N.J., for agricultural-veterinary research has been announced by CIBA Pharmaceutical Products, Inc.

In announcing the expansion of the animal health program of the firm, Dr. Emil Schlittler, executive vice president of research, said, "Research on the newly-acquired farm will include breeding, raising and feeding domestic and other animals and crops, and pursuing the control or eradication of diseases that plague agricultural production."

Good, tillable land, acreage abutting the Raritan River and the farm's accessibility (just off state highway 206) were cited as reasons for CIBA's having preferred it to other farms that were considered. In addition, there are several buildings on the land which will facilitate the immediate beginning of operations.

CIBA's present animal health research facilities, located in Summit, N.J., will be maintained for fundamental chemical and biological investigations in the agricultural-veterinary field, the announcement said.

HEROIC DOG—Duke, a collie from Niles, Ohio, shown above, was honored recently in Chicago as America's most heroic dog for 1961. At a banquet at the Palmer House, he was presented with the eighth annual Ken-L-Ration gold medal award. Major Gen. Hugh Macintosh, U.S. Army, draped the medallion around Duke's neck while the child whose life Duke saved, 10-year-old Penny Grantz, stood proudly beside him. In addition to the medal, Duke was awarded a gold plaque, a gold-plated leash and collar, a custom-made dog blanket and a year's supply of dog food. For his owners, Mr. and Mrs. John D. Grantz, he won a $1,000 U.S. bond. The deed which won the award for Duke took place in the Grantz' back yard March 15. Penny had permission to burn some papers and was watching as the March wind fanned the flames. Suddenly, her skirt caught fire and she began to run. Duke seized the blazing skirt with his teeth and succeeded in tearing it off, burning his mouth in the process. Duke's barks brought Mr. Grantz running and Penny was sped to the hospital for treatment of first, second and third degree burns over 50% of her body. Doctors said that had it not been for Duke's immediate action, the girl would almost certainly have died. Ken-L-Ration is a division of The Quaker Oats Co.

Georgia Egg Assn. Elects New Officers

ROCK EAGLE, GA—The Georgia Egg Assn. has elected L. C. Westbrook, Athens, Ga., as its new president. He succeeds Sidney Miller, Irwinton, Ga.

The election took place at the association's meeting during the Georgia Poultry Institute.

W. H. Smith, Statesboro, Ga., was chosen first vice president; Wesley Harris, Cartersville, Ga., second vice president, and George Seaton, Danville, Ga., secretary-treasurer.

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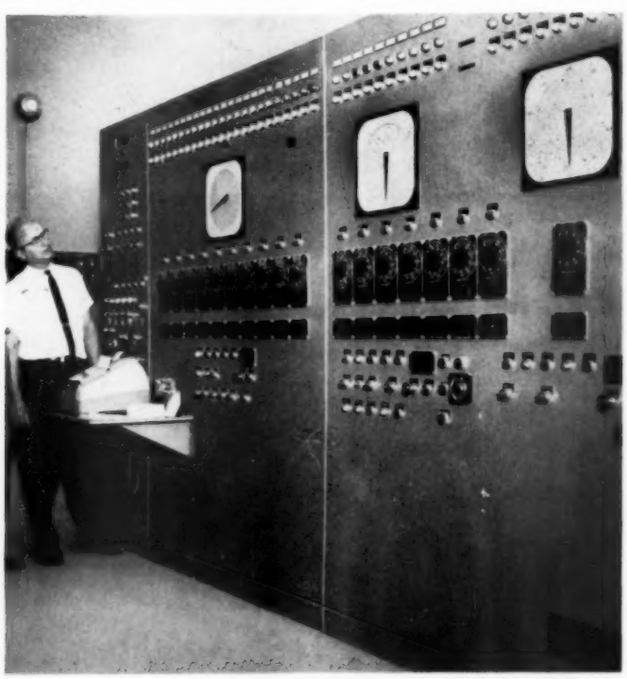

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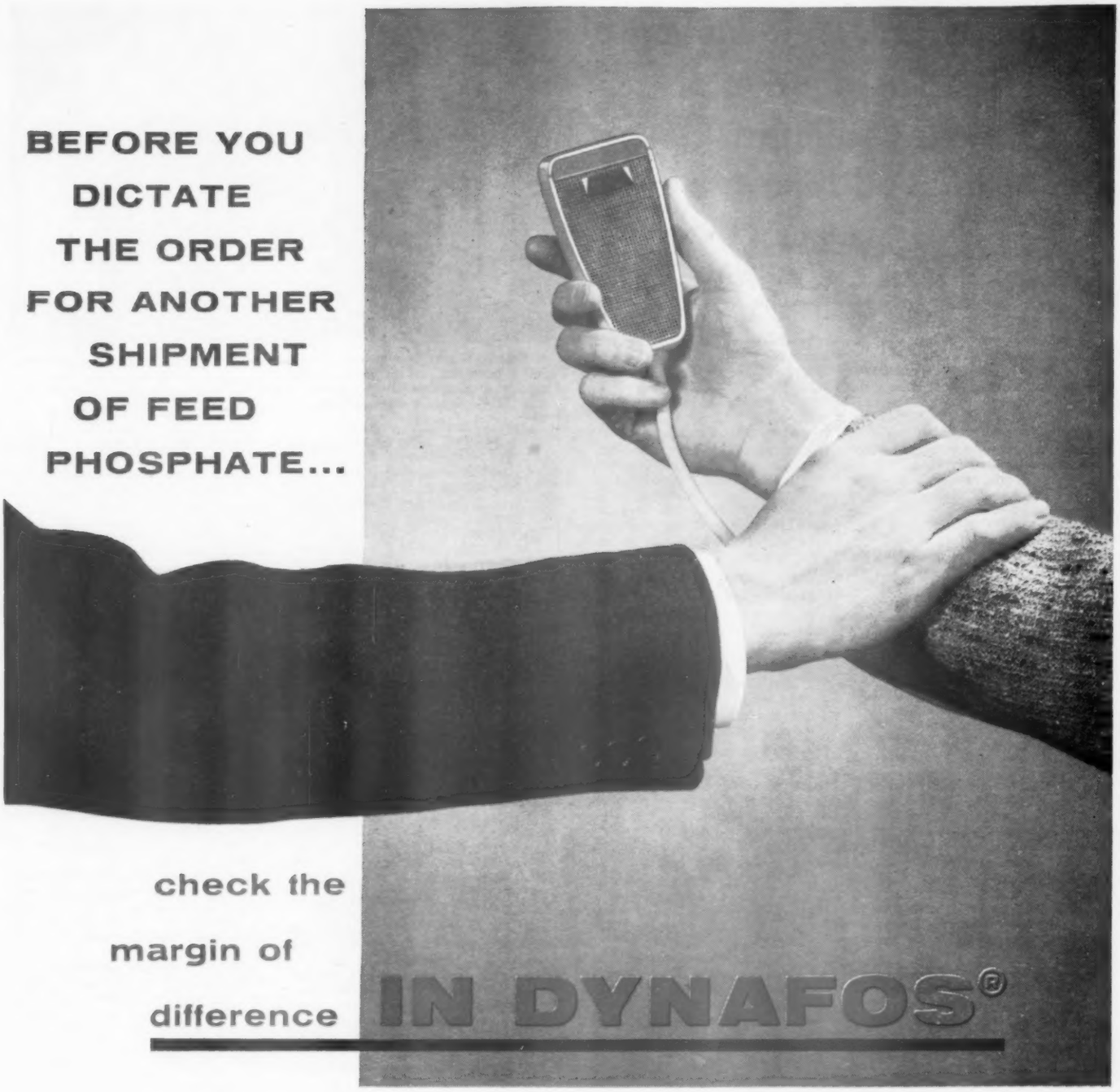

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Methods of Determination of The Distribution of Ingredients In Feed Mixtures

A Review

By James G. Pierce
Walnut Grove Products Co.

How good is your mixer? How efficient is your mixing system? Do you have a workable method for measuring the dispersion of ingredients in a mixture that can be used to evaluate the mixing system?

This is a problem which has long plagued the manufacturers of feeds and premixes of all types as well as producers of many other products which require the uniform dispersion of two or more materials in one mixture.

Theoretically a system of solid particles is completely mixed when the particles are randomly distributed. (15) It has been stated that for practical purposes such a system is completely mixed when further mixing produces no change in either the quality or quantity of the final product or does not increase production costs. (15)

The problem simply stated is to find a method or methods which can become standardized procedures for the determination of the distribution of a given ingredient in a feed mixture.

A successful method could be profitably applied to the determination of the relative efficiency of different mixers or mixing systems for a given formulation or for measuring the dispersion of one or more of the components of a mixture after a passage through a particular system. Another practical application of such a method would be to establish optimum mixing times for the various products manufactured in a batch mixing line where in many cases the batch mixing time can be shortened, resulting in additional batches per shift, thus reducing production costs. In many cases reducing the mixing time cannot be safely accomplished unless the status of the mixture can be determined with reasonable accuracy. Another benefit of a successful method is that comparisons can be made between different mills or between different lines in the same mill, thus establishing valid ratings in multiplant operations or multiline plants.

EDITOR'S NOTE: The author of the accompanying article, James G. Pierce, is director of quality control for the Walnut Grove Products Co., Inc., Atlantic, Iowa. Mr. Pierce is a native of Iowa and a graduate of Iowa Wesleyan in chemistry and mathematics. He also attended Iowa State University and did graduate work at the University of Chicago. Before joining Walnut Grove, Mr. Pierce was chief chemist for National By-Products Co., Inc., Des Moines. Earlier he was in research and sales with Western Condensing Co., San Francisco, and was assistant chemist in the Iowa Department of Agriculture. He is a member of several technical societies and associations and also is known for his presentation of papers on premixing at Feed Production Schools.

Factors to Consider

Now the problem of finding a suitable method is not a simple one, as the efforts of many will testify (21, 22, 23, 26, 31). Many factors must be considered in the search for the correct method to be used in any particular situation. Some of the more important of these factors are:

1. The number of ingredients or nutrients in the mix which must be considered as variables. This may vary from one—in a simple dilution of a drug or vitamin—to six or eight in a multivitamin or trace mineral premix, or to more than two dozen in a complete feed containing all necessary nutrients and drugs.

2. The relative densities or particle sizes of the active ingredients under consideration. It is quite possible for one ingredient to be properly distributed and for another ingredient in the same mixture to be segregated or poorly dispersed due to the physical characteristics of the particles. In general, those particles which are materially larger or smaller than the remainder of the mix or materially lighter or heavier than the rest of the mixture can be expected to be the most difficult to be brought into random distribution. Fortunately, the varied characteristics of a mixture containing many components such as a complete feed tend to minimize the density and particle size effects if the range in density or particle size is not too great.

3. The potency or level of the variable under consideration. Obviously if the level is too low the sample size must be chosen with care (27) and the method chosen must have sufficient sensitivity and accuracy (14, 19, 26) to give reliable results at the low level. In any event the level of the variable must be related to a useful or practical level or the results may not be significant.

4. The physical characteristics of the system such as the type of mixer, the type of conveyors in the system, the amount of free fall in hoppers, the relation of batch size in cubic feet to the working volume of the mixer, the electrostatic properties of both the mixture and the system, the order of introduction of the ingredients into the system, the premix design and others all contribute to the problem of selection of method.

A view of the Walnut Grove laboratory, showing personnel and instruments and a trace mineral (iron) determination in progress in the foreground. The author of the accompanying article, James G. Pierce, director of quality control for the Walnut Grove Products Co., is in the center of the photo.

Methods Available

What methods are available? There are a number of methods available for use in determining the dispersion of ingredients in a mixture. One method of classification of these methods is as follows:

A. CHEMICAL

1. Protein, AOAC (2, 3) 22.011.
2. Fat, AOAC 22.032, 22.035, 22.036, 22.037.
3. Fiber, AOAC 22.038.
4. Ash, AOAC 22.010.
5. Moisture, AOAC 22.003, 22.004, 22.008, 22.009.
6. Urea Nitrogen, AOAC 22.023.

The methods in this classification are standard and well known to the industry and are useful in checking mixing of materials such as unmedicated supplements in complete feeds or other mixtures where the major source of one of these characteristics is a single ingredient; for example, fat distribution from added fat or the distribution of urea in a mixture.

The fact that most of these items are found in varying concentrations in most common ingredients reduces their effectiveness in the study of a mixture containing several ingredients.

B. MINERAL ELEMENTS.

1. Calcium, AOAC 22.057, 22.058 (2, 3).
2. Phosphorus, AOAC 22.061.
3. Iodine, AOAC 22.058, 22.071.
4. Chlorides, AOAC 22.079 and (20).
5. Iron, AOAC 6.007.
6. Copper, AOAC 22.077.
7. Manganese, AOAC 22.072.
8. Zinc, AOAC 24.077.
9. Cobalt, AOAC 22.074.

These methods are useful chiefly in checking the specific distribution of the added mineral nutrients in a mixture, and any one of these could be used as a tracer in a mixture; however, since calcium and phosphorus are often supplied in a mixture from more than one source, these two may not be as useful as the micro-minerals which are not present in any quantity in the grains or most other ingredients which are used in large amounts.

The methods for copper in small concentration, zinc and cobalt are slow and difficult for many feed laboratories, and for this reason they are rarely used as tracer methods.

The method for iodine can be used (19), but the low levels of iodine normally used and the instability of some iodine compounds under adverse conditions may reduce the reliability of the analysis below acceptable levels for determining dispersion except in premix concentrates.

The methods for chlorides generally used for salt determination have been used considerably for checking distribution of salt in mixtures and have been used by many as tracer methods.

The methods are specific and reliable, and the potentiometric method (20) is quite rapid, and a large number of samples can be handled quickly and easily, making this a good tracer method for many mixtures, but care must be taken that the particle size usually found in salt, the high density, and its smooth crystalline surface do not result in considerable unmixing in samples and consequently unsatisfactory results.

The methods for iron and manganese are specific, reliable and relatively easy to use. These methods, in addition to checking the nutrient level in a mixture, may find considerable use as tracers to check the presence and distribution of a premix in a mixture. Since iron and manganese compounds can be obtained with particle sizes similar to many other additives, these methods are useable as tracers for drugs or additives that are much more difficult to determine.

C. SPECIFIC NUTRIENTS (VITAMINS).

1. Vitamin A, AOAC 39.008.
2. Vitamin D_3, AOAC 39.115.
3. Vitamin D_2, AOAC 39.130.
4. Vitamin B_{12}, AOAC 39.050.
5. Riboflavin, AOAC 39.033, 39.084.
6. Pantothenic Acid, AOAC 39.075.
7. Niacin, AOAC 39.037, 39.006.
8. Choline, AOAC.
9. Carotene, AOAC 39.014.

In the vitamin classification all methods have been used for the determination of the particular nutrient, but the time required for many of these determinations, the instability of some forms of the vitamins under certain conditions (22, 26, 31, 32) and the lack of precision of many of the vitamin methods prevent them from having wide application in de-

Balances are necessary for precision work in a quality control laboratory.

This photo shows a technician ashing a mixture prior to running a mineral determination.

termining dispersion in feed mixtures —except in concentrated vitamin premixes where no other factor is desirable.

D. DRUGS.

1. Arsanilic Acid, AOAC 33.007 (2, 3).
2. 3-nitro-4-hydroxy - phenylarsonic acid, (10).
3. Total Arsenic, AOAC 33.001.
4. Sulfaquinoxaline, AOAC 33.054, 33.055.
5. 4-nitrophenylarsonic acid (11).
6. Nitrophenide, AOAC 33.044.
7. Nicarbazin, AOAC 33.034.
8. Antibiotic, AOAC 33.057, 33.082.
9. Other specific drugs.

Since many of the drug methods are quite specific and since there is normally no extraneous source of the drug, the methods for drugs are generally quite applicable to the problem of determining dispersion.

Of these methods the total arsenic method is the most precise and probably the most easily used either to determine an arsenic compound per se or to use an arsenical in a premix as a tracer for the premix.

The method for 3 nitro is specific, but in mixtures containing a fair amount of water soluble proteins, such as dried whey, dried skimmed milk or condensed fish solubles, the method becomes slow and quite painstaking to properly accomplish the protein precipitation step. This reduces the application of this method in many mixtures.

The methods for arsanilic acid, sulfaquinoxaline, 4 - nitrophenylarsonic acid and nitrophenide are all similar and fairly precise but not specific since these four methods are essentially the same method adopted for the different compounds and may lead to poor results if two of these compounds are used together in the same mixture.

Most of the other drug methods are not as widely used in smaller feed laboratories, and the time required for microbiological methods such as reserpine limits their use for the determination of their distribution in any but the drug concentrates and the analysis required by the specific new drug application concerned.

E. TRACER METHODS.

The tracer methods may be divided into two categories: (1) Those requiring a laboratory. (2) Those requiring no laboratory or at most a single instrument.

1. Methods requiring a laboratory.
   A. The dye recovery method (29).
   B. The nitrite method (13).
   C. The methylene blue method (30).
2. Methods requiring no laboratory.
   A. Low precision.
      (1) Shelled corn in fine ground meal.
      (2) Wooden blocks in mixture (27) and spherical pellets in mixture (27).
      (3) Light density in heavy density materials (9).
      (4) Food coloring method (26).
      (5) Fluorescent method (32).
   B. High precision.
      (1) Colored granules visual observation (16).
      (2) Microtracer salt method (14).
      (3) Radioactive isotope methods (5, 17).

The tracer methods are used generally either to more easily identify the distribution in feed of materials which are slow and difficult to determine or to provide a rapid method in order that a large number of determinations can be made in a very

Louisiana State University:

There was no difference at 8 weeks of age in weights, feed conversion or livability for chicks fed practical broiler rations in which soft phosphate replaced up to 75% of the phosphorus from dicalcium phosphate.

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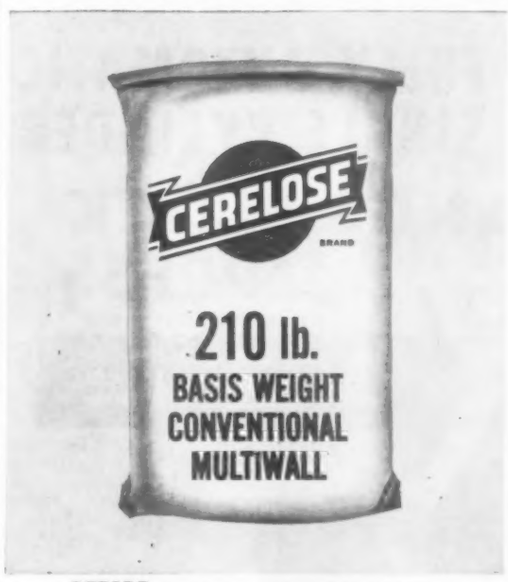

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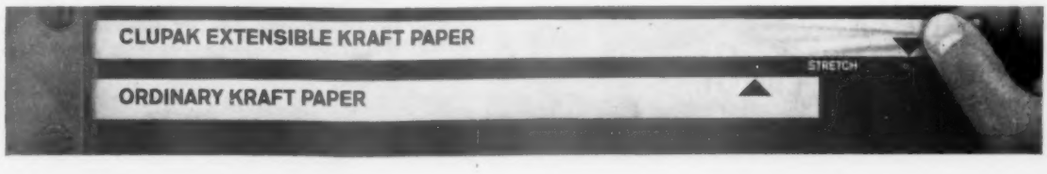

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short period of time in the evaluation of a mixing system or procedure.

Tracer Methods Requiring A Laboratory

Dye Recovery Method—Of the tracer methods requiring a laboratory, perhaps one of the oldest and best known is the dye recovery method. In this method Orange 2 dye is mixed with a material to be studied. This mixture is then premixed and added to the feed at the level normally used.

The dye level should be chosen to give a level of from 5 to 15 parts per million.

After the mixing is completed the feed is sampled and analyzed for the dye by the following method:

Extraction—

1. 30 grams of the finely ground sample are weighed into a fat extraction flask. 100 ml. of Skellysolve B are added, the flask tightly stoppered, well shaken, and allowed to stand over night (16 hours).

2. The next morning, the flask is well shaken and the contents allowed to settle (about 60 minutes).

3. Fifty ml. of the supernatant solution are transferred to a suitable flask and reduced to less than 25 ml. at 70° C. under a stream of dry nitrogen gas. The entire solution is then transferred quantitatively to the adsorption column.

Selective Adsorption—

1. The adsorption column, about 20 mm. in diameter and 10 cm. in depth is a tightly packed mixture consisting of 12 parts by weight of Fullers Earth (No. 115 Whitaker, Clarke and Daniels) thoroughly blended with 688 parts of Soda Ash, 58% light (Michigan Alkali Co.). This mixture holds up the passage of carotene and other plant pigments and permits the dye to pass through as a pure solution. The column is contained in a cylindrical glass tube which is attached by a rubber stopper to a separatory funnel equipped with extra stopcocks to permit the application of suction and release of the partial vacuum.

2. About 25 ml. of Skellysolve B are poured onto the adsorbent mixture and drawn through the column by gentle suction (4 to 5 drops a second). The adsorbent mixture must be wet thoroughly with the Skellysolve before the dye solution is added. The Skellysolve extract containing the dye is then transferred quantitatively to the wet column. Generally, the dye zone can be seen readily as it travels down the column. About 25 to 30 ml. of Skellysolve may be drawn off from the separatory funnel before the dye reaches the cotton plug. This colorless Skellysolve is used for subsequent washing of the column.

3. The column is washed with small portions of Skellysolve B until all the dye is in the separatory funnel. Generally, this takes about 6 washings, and the volume of solution in the separatory funnel is about 45 ml. This solution is drawn off into a 50 ml. volumetric flask and diluted to the mark.

Photometric Determination—

1. The dye concentration in this final solution is determined by means of a photelometer, which has been previously calibrated against a series of standards prepared from feed containing a known amount of the dye.

Since this method was developed, the Food and Drug Administration has removed FD&C Orange 2 and also FD&C Red 32 from the list of colors certified for food use which also makes them unsuitable for feed use so that other oil soluble colors which may be permitted in foods need to be investigated for a similar procedure.

Nitrite Method—Since the use of the nitrite method is fully described in U.S. patent 2,712,997 (12), it will not be repeated in its entirety here.

In general sodium nitrite is used as a tracer at levels of approximately 4-5% in premixes and from 20 to 50 parts per million in the feed. The patent recommends the use of this procedure for such difficult materials for analysis as vitamin D.

Unfortunately the patent does not describe the methods of assay for the nitrites; therefore, anyone desiring to use this procedure must select a nitrite method from those available which will best fit the nitrite level used and the conditions found in his particular mixture.

Methylene Blue Method—The methylene blue method is one of the most workable tracer methods. This method uses methylene blue NF generally at a rate of approximately 30 gm. per ton of feed. The dye is blended first either with a specific ingredient or in a premix and incorporated into the feed. Samples are then taken according to the design of the system under study and analyzed for methylene blue by the following method:

Procedure:

Weigh a 15 gm. sample of mixture and extract with 95% methanol at room temperature by shaking for 15 minutes.

Filter from Whatman No. 42H filter paper and wash flash and residue with 50 ml. of methanol.

Make filtrate to volume of 200 ml. with methanol.

Read suitable transmittance at 655 in a suitable spectrophotometer.

Determine concentration by referring to a standard curve prepared from methanol solutions of methylene blue in concentrations from 0.5 to 3.5 micrograms per milliliter. If an instrument such as the Coleman model 14 Spectrophotometer is used, the most useful range will be found to be from .25 to 2.0 micrograms per milliliter.

This method has the advantage over methods using water extraction

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DPi

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d- When nature makes vitamin E, she gives to each molecule a "right-handed" twist. A less effective form, known as "*dl*," consists of both "right-hand" and "left-hand" molecules in equal numbers. The vitamin E in *Myvamix*, like the vitamin E in nature, is all "right-handed"—all *d-*. It's 36% more potent than the man-made variety.

alpha- At least seven plant substances—tocopherols—have vitamin E activity. Far and away the most effective member of the tocopherol family, biologically speaking, is "alpha." To equate tocopherol with vitamin E is misleading. Corn, for example, is rich in tocopherol. But nearly 90% of its tocopherol is in non-"alpha" forms of weak vitamin E effect. "Alpha," the biologically effective tocopherol, is what you get in *Myvamix Vitamin E*.

tocopheryl acetate The "acetate" means that the vitamin E in *Myvamix* is really stable. Tests show no loss of potency even after storage in finished feeds for six months at 100° F. The full potency you put in the feed is there when the feed is fed.

soy grits The vitamin E in *Myvamix* is on a dry, non-dusting soy grits base. We use grits instead of meal because they have less fiber, less moisture, more protein, more uniform particle size, and are dusted to remove hulls and powder. All this means a higher quality product, one that's as easy to handle as anything in your mill.

DPi This is the place to come for information or a quotation on *Myvamix Vitamin E*. Write ***Distillation Products Industries,*** Rochester 3, N. Y. Sales offices: New York and Chicago • Charles Albert Smith Limited, Montreal and Toronto • Or call the distributor nearest you.

by reducing the extraneous water soluble materials and only occasionally will the final solution be cloudy enough to require a second filtration of centrifuging. Also the wave length of maximum absorbence (655 millimicrons) is little affected by other colored materials that might be extracted simultaneously by the methanol.

Tracer Methods Requiring No Laboratory

In describing the tracer methods requiring no laboratory two subdivisions can be made.

A. In the first division methods of relatively low precision and sensitivity will be described.

(1) A simple method of checking distribution in mixtures of fine ground materials is to **add a measured quantity of unground shelled corn to the mixture.** After mixing, the batch is bagged and a scheduled number of bags are screened to recover the corn kernels. The variation in amount recovered in the several bags is observed and an estimate can be made as to the efficiency of the mixer.

This method is easy to use but has the disadvantage of using a particle size much greater than the body of the mix, and therefore ideal distribution cannot be expected or measured if it could be obtained. Sample sizes must be relatively large also, or some samples may contain no corn. Work with small percentages of this tracer will readily demonstrate the need for fine particle sizes necessary to obtain distribution of microingredients.

(2) A second simple method of measuring distribution has been used in vertical mixers and could be used in some other mixers. The technique consists of **introducing a quantity of wooden blocks** measuring 1 in. x 1 in. x 3/16 in. into the mixer all at once. The mixture is bagged and the number of blocks recovered in each bag is counted. The low density of the blocks in relation to their volume makes this method a difficult test for some equipment and of course an unworkable method for mixing equipment designed with very close tolerances between working parts or physical damage may result. This method has all of the disadvantages of the previous method regarding small numbers of particles per unit weight making work with low concentrations impossible and requiring relatively large sample sizes. Suggestions of the addition of spherical pellets with a density of 50 lb. per cu. ft. have been made and would make this test much more rigorous, but the disadvantages of the large particles and other problems discussed above still apply.

(3) A third method is the **use of light and heavy density ingredients** and weighing volumetric samples. This method is of limited use because of the necessity of widespread difference in density. The density of the ideal mixture must be known, and due to difficulty in sampling and measuring volume of dry materials, the precision of this method leaves much to be desired. The principal use of this method is to determine the optimum mixing time for mixtures of this type where time or available equipment does not permit use of one of the more precise methods.

(4) The **food coloring method** is a variation of the dye recovery method sacrificing sensitivity and accuracy in order to gain speed and use in plants where no laboratory is available.

The following procedure has been used:

Mix approximately ½ lb. of vegetable food coloring with an ingredient or premix and add to the batch in the regular manner.

Draw samples from the bagged feed from the first, middle and last bag taken from the batch.

Place equal amounts of each of the samples in equal amounts of water in beakers or other clear glass containers. Stir and allow to settle. The resulting color in the water should be identical for all samples. If different shades of color are found, further studies must be made to find the problem.

Since this is a visual observation, it is difficult to determine the degree of variation between samples, thus leaving the precision of the method dependent upon the sample size chosen, the amount of water used and the depth of liquid used for the observation. This can be controlled by the size of the beaker or glass used.

In some mixtures with little or no water soluble protein or other material which will cause a turbid solution, the method may be refined—if a laboratory is available—by the use of smaller samples weighed on an analytical balance and by the use of a colorimeter or spectrophotometer to measure the variations in color.

This method, together with dye recovery method discussed previously, offers a considerable area for additional research in tracer methods.

(5) **Fluorescent methods.** The natural fluorescence of many materials has been used primarily for qualitative tracing of ingredients in mixtures and as a check on the presence or absence of a specific premix in a mixture.

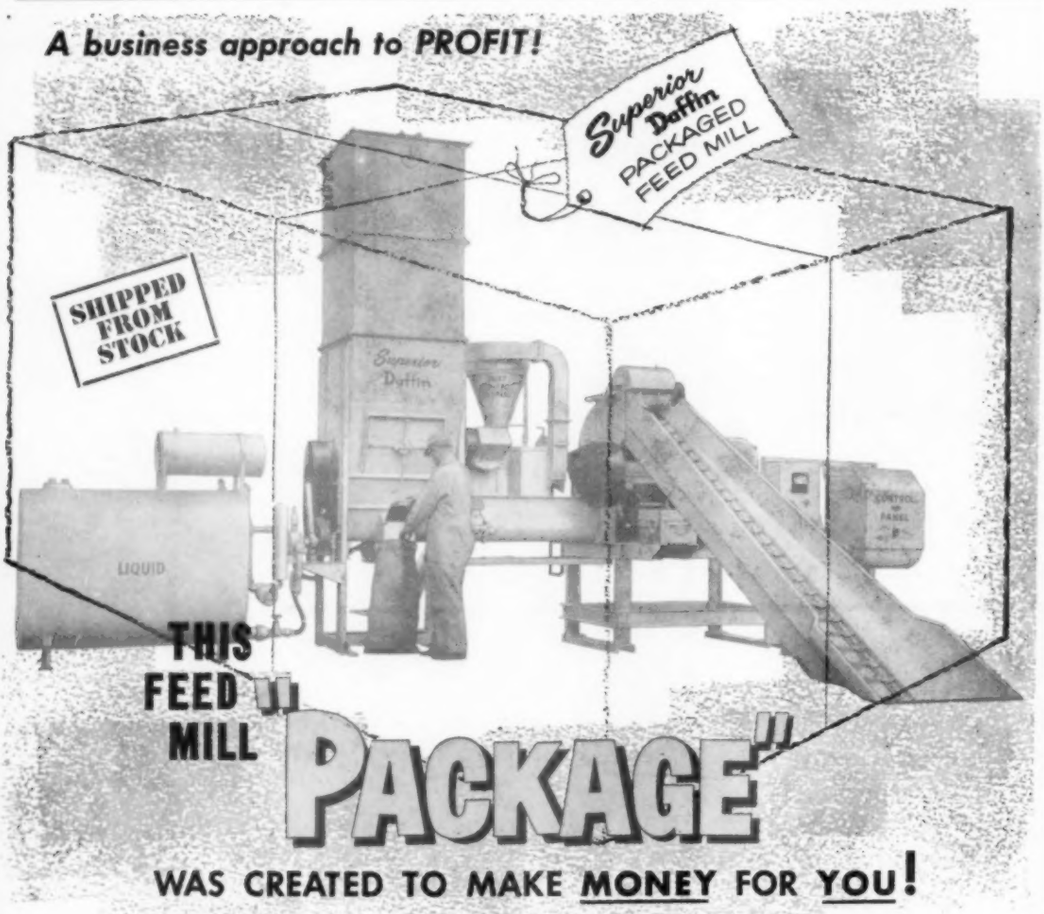
Certain members of the American Association of Feed Microscopists have reported the successful use of fluorescent properties under ultraviolet light in determining the approximate percentage content of fluorescent materials in mixtures. The major factors limiting the use of fluorescent methods are the need for special ultra-violet lamp equipment, the number of natural fluorescing materials making positive identity difficult, and the need for rather expensive equipment such as photofluorometers for the quantitative measurement of solutions extracted from mixtures containing fluorescent materials.

The application of fluorescent tracers can, however, be very well applied to the tracing of areas in a system causing holdup of material and consequent contamination of following mixtures.

A well known use of fluorescent materials is the application of fluorescent dyes to treated seed, thus making even very small amounts recognizable when mixed in with untreated grain. In the case of the whole grains, the treated grain can easily be accounted for quantitatively and thus serve as a measure of the mixing, although, in some cases of this kind, it may be accidental.

B. In the second division of methods requiring no laboratory, there are three methods that will furnish an order of precision comparable with the more widely used laboratory methods. While these methods do not require a laboratory, some will require specialized pieces of equipment.

(1) The first of these methods is the **colored granule method,** using visual observation and counting as a means of obtaining quantitative data. A number of materials including colored roofing granules, colored soy-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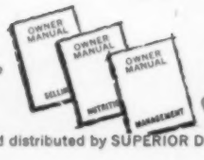

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bean particles, vitamin A beads, dicalcium phosphate beads, beet pulp, and even plastic beads have been used. The counting procedures range from counting all granules in a sample to the spreading of a portion of the sample into a thin line and counting a number of particles in the line and recording the distribution of colors within the recorded portion. This procedure has been used for some very precise studies of mixing conditions in experimental systems and, properly used, it probably provides the maximum accuracy obtained in mixing studies.

There are a number of disadvantages, however, in attempting to take this method from experimental or pilot size systems. One of these is the problem of obtaining colored granules in quantity that will be acceptable in feeds, readily distinguishable without optical aids and resist reduction in size or destruction during the processing. This rules out the roofing granules and plastic beads and reduces the usefulness of most of the others described.

A wide field microscope can make work with smaller granules practical, and thus bring dicalcium phosphate beads and vitamin A beads into more practical use and make this method more applicable to the determination of smaller percentage ingredients. If the vitamin A beads are screened to narrow particle size ranges, the counting under the microscope can provide a very precise result since the number of beads per gram can be determined with considerable accuracy in beads, for example, between 35 and 40 mesh. Another advantage of vitamin A beads over dicalcium phosphate is their greater resistance to friction and particle size reduction during mixing and handling. Also in many feeds dicalcium phosphate is added in quantities that would make the counting difficult unless a modified formula is used.

(2) The microtracer method is basically a colored granule method modified to increase sensitivity and ease of use. Basically the method consists of using salt or silica particles of very carefully controlled sizes which have been coated with a water soluble FD&C color.

Procedure:

Include micro tracer in mix at rate of 6 gm. to 24 gm. per ton, depending on type of study being made.

Sample according to schedule and proceed according to the following method:

Materials—

1. Whatman No. 1 filter paper, 9 cm. circles. (Paper towels or other absorbent tissue will serve.)
2. Beakers, 50 ml. (Any 2 oz. or larger glass tumbler will serve.)
3. Hot plate or oven.
4. Atomizer or spray gun.
5. Carbon tetrachloride or chloroform.

Method—

Transfer 5.0 gm. (roughly 1 tablespoon) of labeled feed to beaker. Add 25 ml. (roughly 1 oz.) of solvent, swirl beaker to thoroughly wet sample, and let stand one-half minute. Then decant floating feed and solvent, avoiding loss of sediment. Repeat with 15 ml. of solvent. Dry the sediment by putting beaker on hot plate or in oven. This sediment contains the tracer.

Support filter paper on clean horizontal surface. Expanded metal shelving that fits oven is suitable for multiple assays. Transfer dry sediment from beaker to filter paper by rotating beaker at increasing angle over paper, moving beaker about so that sediment is spread uniformly. Remaining sediment, if any, may be brushed out onto paper.

Gently spray water downward on paper, moistening paper and sediment thoroughly, but avoiding excess. There must be sufficient water to transfer dye from tracer through sediment to paper, but not so much that resulting spots become too diffused to be counted.

As soon as first spots of color appear, about one-half minute, dry paper on hot plate or in oven. When paper is dry, brush off adhering sediment and count colored spots.

Tracers of different color are distinguished from each other, the spots of different color being counted separately.

The color identifies the product or the micro-ingredient; the number of spots is a measure of the quantity of micro-ingredient.

Microtracers are obtainable in several colors, and more than one color may be used in a single mix. The complete method requires only about 10 minutes after the sample is taken and may easily be done by technicians or plant personnel. A wide-field microscope, if available, will be of considerable assistance but is not essential.

This method has the disadvantage of being greatly reduced in accuracy if large amounts of liquid, such as molasses or condensed fish solubles, are used in the mixture, since the

(Turn to METHODS, page 108)

Questions I'm asked about

Dr. G. C. Wallis, recognized authority in the field of Vitamin D₂ nutrition for livestock

Q: Will two to five pounds of good sun-cured hay provide enough vitamin D for my dairy cows?

A: No. Sun-cured hay varies widely and unpredictably in vitamin D content—80 units to 1,250 units per pound have been reported for sun-cured alfalfa hay. Two to five pounds of lower potency hay would provide about 200 to 500 units per cow per day which is insignificant. Even though the hay happened to be high in vitamin D, there would be only a modest contribution made toward the suggested optimum intake of 6,000 to 8,000 units per pound of dairy ration.

Q: How can I check to make sure my dairy cows are receiving enough vitamin D?

A: Good safeguards can be taken but an absolute check is probably not possible. Optimum vitamin D levels for top performance and longevity have not been clearly established but work is in progress. Mild deficiencies are often difficult or impossible to detect but they can be costly. Available information suggests the use of 6,000 to 8,000 units of vitamin D per pound of complete grain ration. Confidence in your feed manufacturer and the good performance of his well-formulated rations would be important for users of commercial feeds.

Q: Is there any danger of my feeds having too much vitamin D?

A: Our recommendations for the vitamin D fortification of feeds are well within the generally recognized safe limits of vitamin D intake for the different species of animals. With careful methods and efficient modern mixing equipment feed manufacturers are able to achieve good distribution of micro-ingredients. The chance of overdosage is remote.

Q: How much vitamin D do baby pigs and growing-finishing pigs need?

A: Early weaning, fast growth, confinement raising, multiple farrowing and other changes have greatly increased nutritional stress factors since the vitamin D requirements of pigs have been carefully studied. Based largely on amounts that have given good results in experimental and practical swine raising programs, a number of Experiment Stations are suggesting about 500 units of vitamin D per pound of milk replacer and starter with somewhat smaller amounts as pigs approach market weight.

Q: Do sheep get enough vitamin D from natural sources?

A: Not always. For instance, in recent English studies lambs from ewes given supplemental vitamin D averaged 6 pounds heavier at weaning in one flock and 9 pounds heavier in another than lambs from ewes given no vitamin D. Fleeces from experimental animals were more than ½ pound heavier, graded higher, and brought a premium price.

S. C. Wallis

For more complete answers to any of these questions write to Dr. G. C. Wallis, Director of Nutrition, Agricultural Department, Standard Brands Incorporated, 625 Madison Avenue, New York 22, N. Y.

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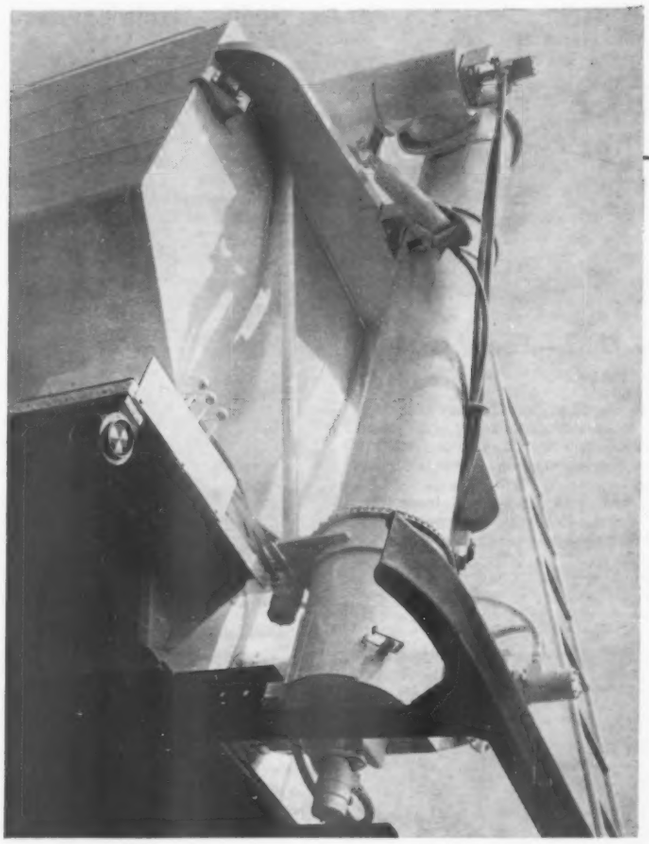

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No. 7668—Liquid Protein Supplement

The Wisconsin Liquid Feed Corp. has announced the availability of a booklet entitled "Increase Milk Production and Reduce Feed Costs with Liquid Protein Supplement (LPS)."

The booklet defines LPS as a liquid combination of essential ingredients that enables the dairy cow to better utilize home grown roughages and grains. LPS is said to contain molasses, urea, phosphoric acid, trace minerals, vitamin D_3 and vitamin A.

The manufacturer says that LPS contains not less than 30% protein, is guaranteed to contain 20,000 units of vitamin A per pound of LPS, is easy to handle and does not freeze in winter nor attract flies in summer.

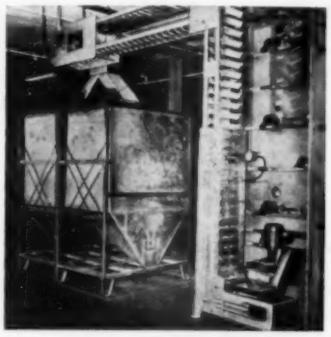
Also included in the booklet are instructions on how to use LPS with lactating dairy cows, calves and heifers.

Cost figures and research tests are also discussed. For a copy of this booklet, check No. 7668 on the coupon and mail.

No. 7669—Bucket Conveyor

The availability of a brochure on its "Bucketglide" has been announced by the Clermont Machine Co., Inc.

Materials that are said to be adaptable to the Bucketglide, which is equipped with an automatic switchboard discharge, include grains, cereals, beans, seeds, ground fish and meat, minerals, chemicals, drug products and others.



An exclusive feature of the Bucketglide, says the manufacturer, prevents buckets from jamming, loosening or falling out. The Bucketglide is available in three standard sizes (4 in. Bucketglide, 2.9 cu. ft. per min.; 6 in., 7.4 cu. ft. per min., and 12 in., 8.5 cu. ft. per min.) and can be custom built to specifications: Conveyor height; length, position, quantity and type of discharge; type of drive; and position of controls.

The conveyor buckets are said to be guided securely in channels, and provided with bearing followers which ride inside channels to reduce friction and prevent wear.

For a free booklet and engineering data sheets on the Bucketglide, check No. 7669 on the coupon and mail.

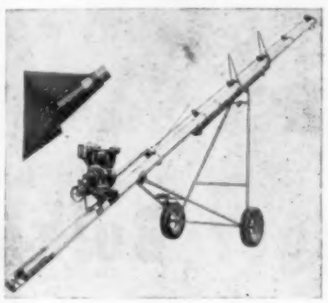
No. 7667—Feed, Grain Conveyor

The Cardinal "Big 7" Aug-O-Matic, a 7 in. auger-type feed and grain conveyor, has been announced by the LML Engineering & Manufacturing Corp.

According to the manufacturer, the Big 7 Aug-O-Matic is designed to function as either a transport or stationary unit.

Company officials say that one feature of the new conveyor is its adaptability to electric motor, gasoline engine or tractor power-take-off through simplified conversion mechanisms.

Other features include a safety-shield drive assembly and a welded frame. The Cardinal Big 7 can be extended from 31 to 51 ft. with 5 and 10 ft. sections. A gravity hopper (note accompanying photo) is available as optional equipment. Other optional equipment includes a 10-in. perforated section for sifting shatterings.

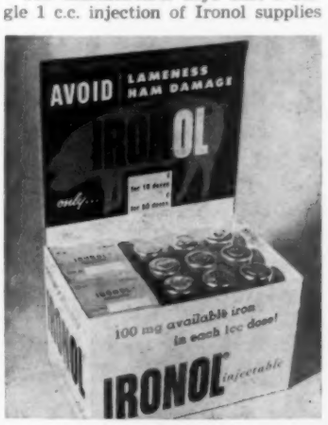


For additional information, check No. 7667 on the coupon and mail.

No. 7663—Injectable Iron for Pigs

A new product, Injectable Ironol, described as an iron hydrogenated dextran complex to prevent and correct iron deficiency anemia in baby pigs, has been announced by American Scientific Laboratories, Inc.

The manufacturer says that a single 1 c.c. injection of Ironol supplies 100 mg. of iron to prevent anemia. The new product is said to minimize irritation and lameness, and because it is of low viscosity, a small gauge needle can be used.



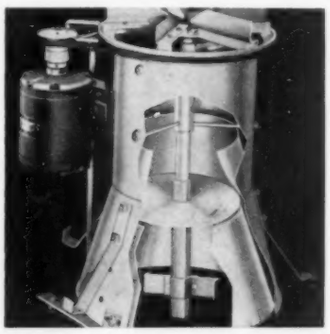
Officials say that pigs treated with Ironol may gain up to 5 lb. more than untreated litter mates in the first three weeks.

For additional information check No. 7663 on the coupon and mail.

No. 7664—Grain Leveler

Introduction of the Model A3 "Levl-Spred" grain leveler has been announced by Lennox Industries, Inc. The accompanying photo shows the double cone and an automatic flow control arrangement that is said to automatically control the volume of grain going into the spreader wheel, thereby providing even distribution around the spreader wheel.

When used with a drying fan, the double cone is said to be of further benefit in that it does a thorough cleaning job, removing dust, dirt, fines, etc., so that storage and in-storage drying can be done in a satisfactory manner.



The unit is powered by a totally enclosed ⅓ h.p. motor. A self-adjusting steel pulley is used to permit quick setting of the spreading speed.

Spreader fans are furnished for 18 to 28 ft. diameter bins. Vanes for 36 and 42 ft. bins are optional. For additional information, check No. 7664 on the coupon and mail.

No. 7666—Small Animal Warmer

A new galvanized steel warmer for small animals has been announced by the Rhinehart Manufacturing Co., Inc.

Temperature is thermostat controlled and a 650 watt heating element maintains 90° F. uniformly over the 15 by 30 in. surface, say company officials.

Cost of the operation is approximately 3¢ per day. A heavy-duty electric cord carries a ground plug and adapter for safety. The warmer weighs 30 lb. and is guaranteed for one year.

For additional information, check No. 7666 on the coupon and mail.

No. 7671—Mastitis Treatment

A special "Pen FZ Udder Care Kit" promotion, which opens up into a three-color counter display, has been announced by Hess & Clark.

The manufacturer states that the kit, consisting of a package of eight Pen FZ tubes, or syringes, plus a 2 oz. jar of Udder Ointment, is offered in conjunction with the firm's "treat dry cows with Pen FZ to help prevent freshening flare-up" promotion.

Officials report that Pen FZ contains nitrofurazone, which is said to kill germs by starving them to death. Pen FZ, described as non-irritating, can be used in dry cows to help pre-

Send me information on the items marked:

- ☐ No. 7663—Iron for Pigs
- ☐ No. 7664—Grain Leveler
- ☐ No. 7665—Transfer Unit
- ☐ No. 7666—Small Animal Warmer
- ☐ No. 7667—Feed, Grain Conveyor
- ☐ No. 7668—Protein Supplement
- ☐ No. 7669—Bucket Conveyor
- ☐ No. 7670—Reference Table
- ☐ No. 7671—Mastitis Treatment

COUPON NOT VALID AFTER 60 DAYS

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COMPANY .....

ADDRESS .....

CLIP OUT — FOLD OVER ON THIS LINE — FASTEN (STAPLE, TAPE, GLUE) — MAIL

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(Sec. 34.9, P. L. & R.)
MINNEAPOLIS, MINN.

BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Feedstuffs

P. O. Box 67

Reader Service Dept. Minneapolis 40, Minn.

vent mastitis at freshening time, the manufacturer said.

Udder Ointment is described as an emulsion with a special cream base that contains petrolatum (lubricating action), lanolin (softening action), camphor (analgesic and anti-pruritic action), methyl salicylate and eucalyptus oil (penetrating action) and anti-bacterial qualities that cut down bacterial growth. The ointment, according to company officials, leaves no sticky residue, is conveniently packaged and will not harden.

For average problem, officials recommend injecting Pen FZ in each quarter after last milking. For chronic problem, inject Pen FZ in each quarter immediately after last milking. Repeat treatment once per week for two weeks, the manufacturer recommends.

For additional information, check No. 7669 on the coupon and mail.

No. 7670—Reference Table for Bag Material

A wallet-size reference table for estimating the amount of materials required to close sewn open mouth multiwall bags is now available from St. Regis Paper Co.

Called the Closing Materials Calculator, it has been devised by the company's bag division as a guide for production, materials handling, purchasing, research and engineering planning personnel. The manufacturer says it can be used by most industries which package their products in sewn open mouth multiwall bags.

The calculator lists, for 1,000-bag lots, the amount of closing materials which would be required for bags ranging in face width size from 10 in. to over 24 in. Amounts are given for the following materials: Flat or crepe tape; rayon and bulk rayon threads, and crushed paper filter cord. Also listed are the amounts of carliner which would be required for rail shipment of multiwall packaged goods.

For a calculator, check No. 7670 on the coupon and mail.

No. 7665—Portable Transfer Unit

The Fuller Co. has announced introduction of what it describes as the first continuous filter-type portable transfer unit for dense-stream pneumatic conveying of dusty materials.

The latest of Fuller's portable Airveyor units is available for 3 and 4 in. conveying lines. It will handle a wide range of milled and pulverized materials, such as cracked grains, meals, feeds and others.

Principal design feature of the new transfer unit is a newly developed automatic filter. This unit is said to be of simple construction, its filter elements being cleaned continuously by a single master valve driven by a ⅓ h.p. motor. The valve has one moving part, the rotor, which is carried in two sealed bearings.

The portable Airveyor transfer

(Turn to page 72)

OFFER YOUR CUSTOMERS

Two of the Best Friends
A Dairy Calf Ever Had

Blatchford's
ESTABLISHED IN 1800

CALF-PAB
Advanced Milk Replacer

- Get calves off to a good start.
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- Easily digested. Reduces upsets.
- Quality products with a price advantage over major competition.

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THAT INCLUDES A FINE QUALITY DRY DOG RATION, WRITE

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where are you
. . . if it RAINS
. . . and RAINS
. . . and RAINS
this HARVEST season?

Remember 1957? This was the year when the corn crop showed 25%, 30% and 35% moisture. If these same conditions occur in 1961—you could be in trouble. You can't turn off the *rain* this year or any year—but you can turn on your ARID-AIRE Grain Dryer. With ARID-AIRE, moisture evaporates faster and grain temperature is lower, and every carload you deliver is high grade grain. Find out why more and more elevator operators are using ARID-AIRE. You'll get answers like these:

ARID-AIRE drying eliminates 3 big wet-weather headaches.

- Lets you take high-moisture grain at harvest time.
- Eliminates down-grading of grain.
- No spoilage from wet or inferior grain.

Horizontal Models "L" and "4"

Vertical style terminal model—the only dryer with four-sided drying power.

Investigate ARID-AIRE, the most complete dryer line available. Write for information today.

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Like to save 3 days on 1,700,000 broilers?

Make sure
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ARBOR ACRES 50's

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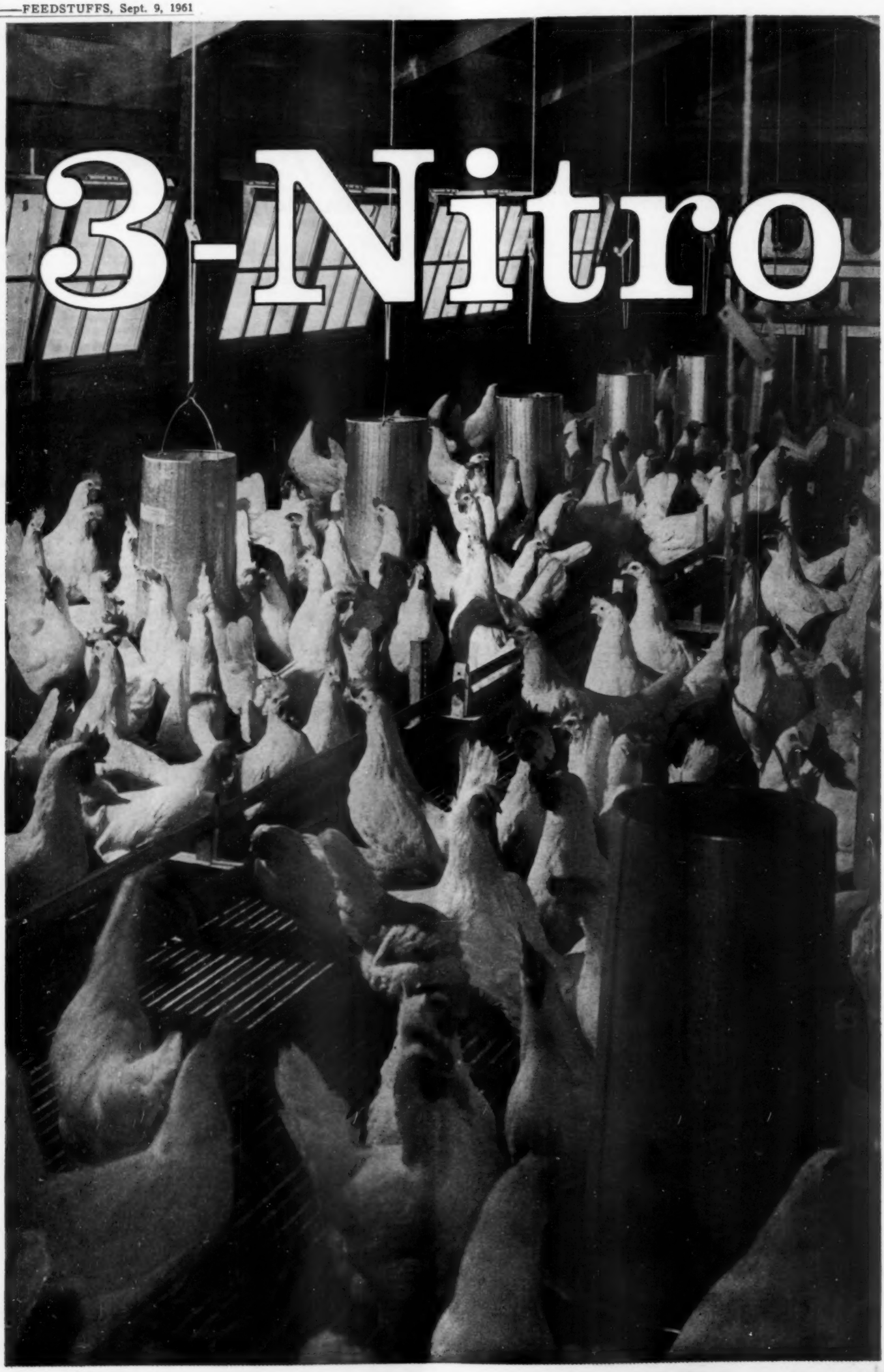
3-Nitro

...in your laying mash gives your customers 3 important benefits...

1. *Increased egg production*

2. *Improved feed efficiency*

3. *Better livability*

Top efficiency is a must for today's poultrymen—if they're going to make top profits. That's why more and more successful poultrymen are feeding 3-Nitro to their laying flocks. They have found that 3-Nitro **boosts egg production per hen, increases feed efficiency, and reduces flock depletion.** Records indicate that 3-Nitro-fed birds need a quarter of a pound less feed per dozen eggs . . . that 3-Nitro helps birds live and lay. For example, a hen may lay up to a dozen extra eggs in a single year—at a cost of a few cents for the 3-Nitro. All these benefits because 3-Nitro keeps birds healthier. And healthier hens get more good out of their feed.

YOU BENEFIT, TOO

Customer Satisfaction. Growers quickly recognize the value of 3-Nitro. And they tell their neighbors.

Your Feeds Do Better. 3-Nitro helps birds lay at the peak of their bred-in ability. This reflects credit on your feed.

Mixing Convenience. 3-Nitro is one of the easiest of all feed ingredients to handle, to mix, and to inventory.

Ton-Pak Available. 3-Nitro is one of several Dr. Salsbury's feed additives available in the new Ton-Pak, for faster, surer control of batch-mixed feeds.

3-NITRO IS WIDELY ADVERTISED

Because of sustained advertising and promotion, your customers know of 3-Nitro's many advantages. So, make sure your feeds provide its many benefits. Write, wire, or phone for Feed Manufacturers Guide. Or, if you wish, ask for a Dr. Salsbury's representative to call personally and talk with you about 3-Nitro, the feed additive that gives your laying mash extra benefits to boost customer profits.

Dr. SALSBURY'S LABORATORIES

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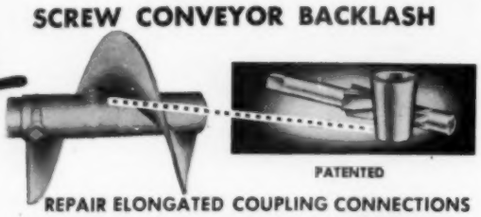
MORE THAN PRODUCTS—A SYMBOL OF SERVICE

Stop

SCREW CONVEYOR BACKLASH



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WITH **HERCULES FASTENERS**

Don't discard screw conveyor flights because of worn couplings. HERCULES malleable iron fasteners renew worn-out conveyor connections . . . provide constant snug fit for quiet running and less wear. The fasteners . . . not the bolt . . . transmit the power, with greatly increased torque. Easily assembled without tearing down conveyor system.

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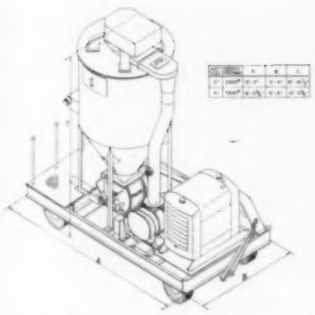

unit is described as a combination of the vacuum-pressure type, with the vacuum side picking up the material and the pressure side delivering it to the desired destination. Incoming material is separated from the conveying air by the continuous filter on vacuum (intake) side of the blower and reintroduced through a high efficiency airlock into the conveying air on pressure (discharge) side of blower.

The airlock is driven from the blower shaft. If the airlock is prevented from turning, because of the entrance of foreign material, an overload discharge release disengages the drive and cuts off the power. This disengagement device is said to protect the airlock against damage while the blower and motor coast to a stop.

For additional information, check No. 7665 on the coupon and mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jottmg the appropriate number of the coupon and forwarding it to Feedstuffs.

No. 7594—Roller mill for steam rolling, The Roskamp Huller Mfg. Co.

No. 7595—Portable pneumatic unloader, Sprout, Waldron & Co., Inc.

No. 7596—Truck-mounted roller mills, The Automatic Equipment Manufacturing Co.

No. 7597—Feeding system for dairy cows, The Clay Equipment Co.

No. 7598—Flat belt for light-duty drives, Manheim Manufacturing & Belting Co.

No. 7599—Poultry vaccine container, Dr. Salsbury's Laboratories.

No. 7600—Rack and pinion gates, Finco, Inc.

No. 7601—Suspended feeding systems, Keen Mfg. Co.

No. 7602—Air pressure packer, H. L. Stoker Co.

No. 7603—New 'Pigloo' systems, Pigloos, Inc. and Collins Products, Inc.

No. 7604—Ingredient meal type dog food, Ralph Wells & Co.

No. 7605—Mobile feed mill schools, Seco, Inc.

No. 7606—New truck body, Sprout, Waldron & Co., Inc.

No. 7607—Vitamin A feed supplement, Chas. Pfizer & Co., Inc.

No. 7608—Ribbon type batch mixer, Wenger Mixer Mfg. Co.

No. 7609—Paddle-type mixer, Hayes & Stolz.

No. 7610—Track for overhead handling, Cleveland Crane & Engineering Co.

No. 7611—Bulk weighing systems, Toledo Scale Div. of Toledo Scale.

No. 7612—Belt repair fasteners, Three Point Lacing, Inc.

No. 7613—Steel treating process, Poff & Toney, Inc.

No. 7614—Soft phosphate literature, Soft Phosphates, Inc.

No. 7615—Poultry brooder catalog, Big Dutchman Automatic Poultry Feeder Co.

No. 7616—Teflon-lined molasses feed scale, Richardson Scale Co.

No. 7617—Bag opening device, St. Regis Paper Co.

No. 7618—Non-hygroscopic whey powder, Bongards Cooperative Creameries.

No. 7619—Feed additive for swine, Merck & Co., Inc., chemical division.

No. 7620—Pour-on insecticide for cattle, Dow Chemical Co.

Feeder? Dealer? Miller? Large or Small User?

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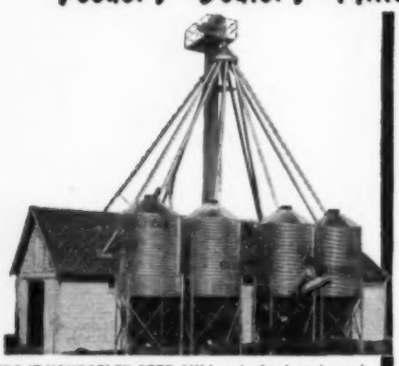
BULK FEED EQUIPMENT

MASTER-CRAFTED BY COLUMBIAN SINCE 1893

Can Supply It!

Whatever your bulk feed requirements—there is Columbian equipment just right for you. Let our engineers help you plan the most efficient and economical set-up with the correct size and type of Columbian Bulk Feed units. Columbian experience in design and Columbian recommended contractors can translate your plans into immediate action.



"DO-IT-YOURSELF" FEED MILL cuts feed costs and feeding time with its 30 ton daily bulk feed capacity. Key is the four 22.8 ton Columbian Bolted Steel tanks into which ground grains are fed through leg; slide gates in auger at bottom permit measuring and mixing feed grains.

GRAIN DRYING PROCESS is speeded and improved by set-up of four 5.6 ton Columbian Red Top "Flow-Matic" Tanks. Feed grain, tempered in tanks, goes through screw conveyor into batch dryer, is elevated and returned to tanks.

BULK FEED TANKS, SACKED FEED WAREHOUSE make ideal installation for MFA elevator and mill. Columbian Red Top "Flow-Matic" Tanks have 32.8 tons total capacity; Columbian 40' x 170' Rigid Frame Building, provides warehouse for sacked feed plus 20' x 20' office space.

SPACE-SAVING SQUARE TANK solves expansion problems in limited area—fits into corners of lot or close to other structures, gives you maximum storage in minimum space.

Write us for free illustrated literature . . . and if you have a specific need now, outline the problem for prompt engineering suggestions.

COLUMBIAN STEEL TANK CO.

P.O. Box C-4013 Kansas City, Mo.

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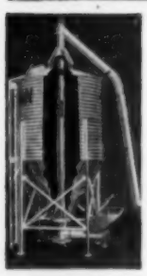
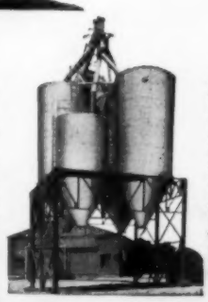
Associate Member, Grain and Feed Dealers National Association



COLUMBIAN MIX-O-MATIC TANK permits mixing and re-mixing feed in tank prior to discharge into truck. Mix-O-Matic is a simple, self-contained formula feed mixer and storage unit.

ON-FARM BULK FEED TANKS are efficient, can be mounted high or low. Columbian Red Top "Flow-Matic" Tanks are available in 9' and 6' diameters with center or side drawoff hoppers and capacities from 2 to 28.2 tons. Smaller tanks can be easily expanded by adding rings.



Welded Bulk Feed Storage is available in a wide range of types and capacities to meet any bulk feed storage need of miller, feed distributor, feed dealer or feeder. This installation combines railside receiving with blending and truck discharge.

STEEL, Master-Crafted by Columbian . . . First for Lasting Strength

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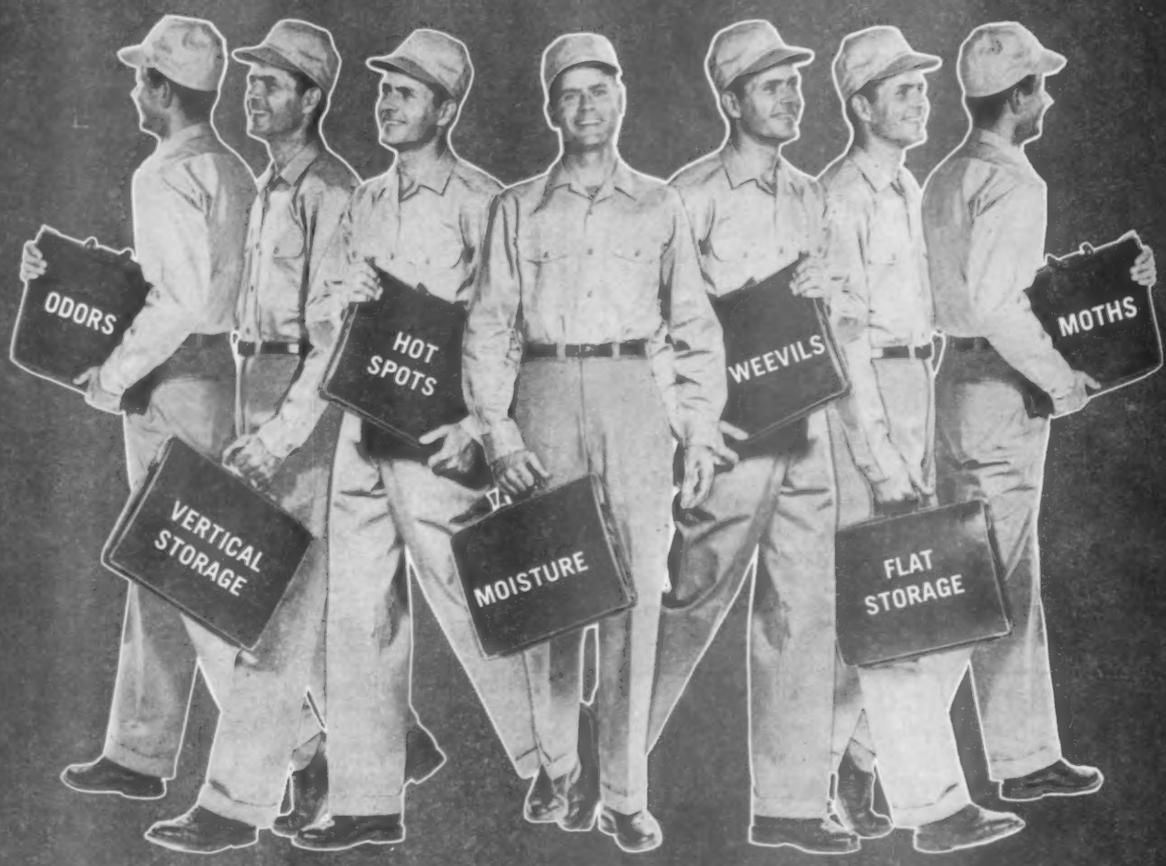
Your DOUGLAS man has the answer to every Grain Sanitation problem!



LET DOUGLAS SAVE PROFITS FOR YOU

TETRAFUME SAVES PROFITS . . . does MORE than act as an all-insect fumigant. Tetrafume also helps cool grain, helps control moisture, helps remove musty and ground odors.

TETRAKIL SAVES PROFITS . . . by protecting grain in flat storage and farm bins. This fumigant is effective even in loosely constructed bins.

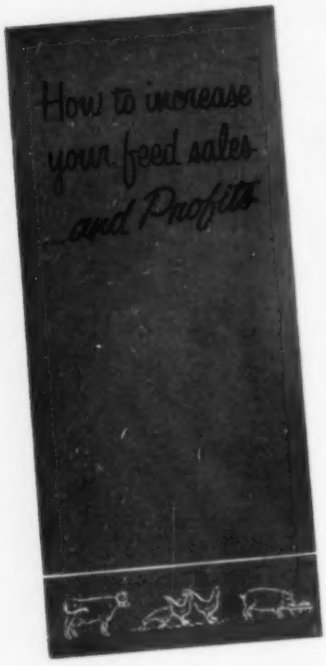
TETRASPOT SAVES PROFITS . . . by controlling partial infestation without the cost of fumigating the whole bin. Costs less because you use less of it.

Douglas Fumigants . . . like all Douglas products—have been developed and perfected through 45 years of professional service to the Grain Industry.

"YOU CAN DEPEND ON DOUGLAS"

Contact your Douglas Man today for
FREE GRAIN INSPECTION
without obligation—Or write direct to . . .

Douglas
CHEMICAL COMPANY
620 East 16th Avenue, North Kansas City, Missouri



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No. 7621—Receiving scales bulletin, Richardson Scale Co.
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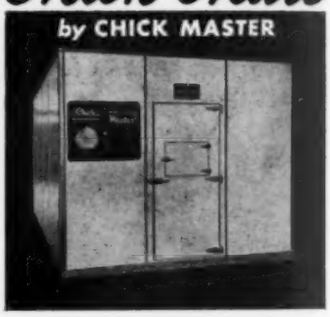
No. 7623—Elevator leg, bucket elevator catalog, Huss & Schlieper.
No. 7624 — Weigh buggy, Leach Manufacturing Co.
No. 7625—Magnetic separator bulletin, Dings Magnetic Separator Co.
No. 7626 — Self-contained scales, Fairbanks, Morse & Co.
No. 7627—Egg grader, Big Dutchman Automatic Poultry Feeder Co.
No. 7628—Fermentation nutrients catalog, Amber Laboratories, Inc.
No. 7629—Water medication solution, Merck chemical division.
No. 7630 — Magnet for hardware disease, Arnold Engineering Co.
No. 7631—Poultry vaccine, American Scientific Laboratories, Inc.
No. 7632—Feed weigher, Leach Manufacturing Co.
No. 7633—Water medication proportioner, Vineland Laboratories, Inc.
No. 7634—Dust filter bulletin, The Day Co.
No. 7635—Growth stimulant for cattle, Nopco Chemical Co.
No. 7636—Paddle conveyor unit, FMC Bulk Transport Systems.
No. 7637—Air vibrator clamp, The Cleveland Vibrator Co.
No. 7638—Chain drag, Sprout, Waldron & Co., Inc.
No. 7639—Hog house automation, Big Dutchman Automatic Poultry Feeder Co.
No. 7640—Pneumatic vibratory feeders, National Air Vibrator Co.
No. 7641 — Medication for calf scours, Dairyland Food Laboratories, Inc.
No. 7642—Diverter valves, Systems Engineering & Manufacturing Co., Inc.
No. 7643—Automatic moisture controls, The Mathews Co.
No. 7644—Pig scours literature, Hess & Clark.
No. 7645—Sealing device, Vineland Poultry Laboratories.
No. 7646 — Fabric cement, Val-A Co.
No. 7647—Grain bin sweep, Wyatt Manufacturing Co., Inc.
No. 7648—Concentrate with weatherizing agent, Lamkin Brothers.
No. 7649 — Stencil roller, Marsh Stencil Machine Co.
No. 7650—Rotary valves, The Day Co.
No. 7651 — Pneumatic feeder, National Air Vibrator Co.
No. 7652 — Grain trailer, Wilson Trailer Co.
No. 7653—Vitamin A product, Nopco Chemical Co.
No. 7654—Elevator, feed mill designs, T. E. Ibberson Co.
No. 7655 — Pneumatic bulk feed truck, Sprout, Waldron & Co., Inc.
No. 7656—Quaternary compounds, Rohm & Haas Co.
No. 7657 — Beef cattle feeding guide, Merck & Co., Inc.
No. 7658—Feed, flour bag prints, Bemis Bro. Bag Co.
No. 7659—Stilbestrol pellet, Discan Corp.
No. 7660 — Auger drag feed unit, Art's-Way Mfg. Co.
No. 7661 — Anti-anemia feeding supplement, Products Marketing Service.
No. 7662 — Electric bin vibrator, Cleveland Vibrator Co.

Chick Chats
by CHICK MASTER



IT'S MORE SALEABLE CHICKS THAT COUNT

More healthy, saleable chicks from every 1,000 eggs set is about the most vital consideration for hatchery profits.

Chick Master incubators and hatchers will give you these extra good chicks, hatch after hatch. Write and ask to have one of our engineers or service men discuss it with you. No obligation of course.

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415 W. Harding Road
Springfield, Ohio

When You SELL

"SNOW FLAKE"

You SELL the BEST

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Write—Wire—'Phone
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Pace Setter in the field of MODERN INCUBATION

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HERE'S WHAT CUSTOM MILLERS SAY ABOUT—

BLUE STREAK Prater Automatic EQUIPMENT

"Our feed sales doubled over a similar period last year due to new facilities and services we were able to offer farmers and feeders in the area."

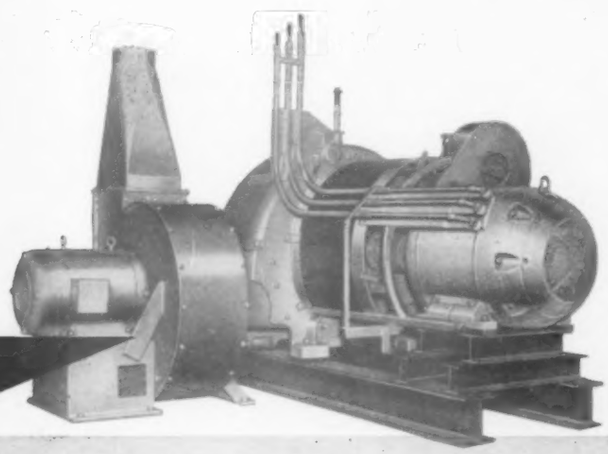
"Our mill is constructed to handle grain with the minimum amount of interference to feed service."

". . . dump pits are automatically controlled with a double chain drag for hay handling."

". . . increased efficiency and lower overhead costs from new equipment installation increasing capacity an estimated 30 tons per day."

Advance DESIGN

For Efficient Operation with BLUE STREAK MILLS

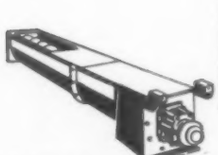


AUTOMATE

with

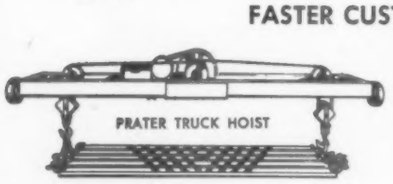
BLUE STREAK Prater

TO KEEP PROFITS AND COSTS IN LINE

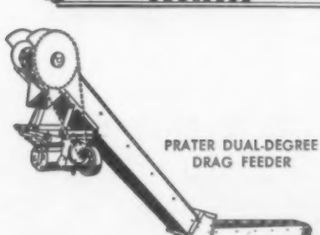


PRATER DUMP PIT SCREW

FASTER CUSTOMER SERVICE — BIGGER PLANT CAPACITY with BLUE STREAK RECEIVING



PRATER TRUCK HOIST



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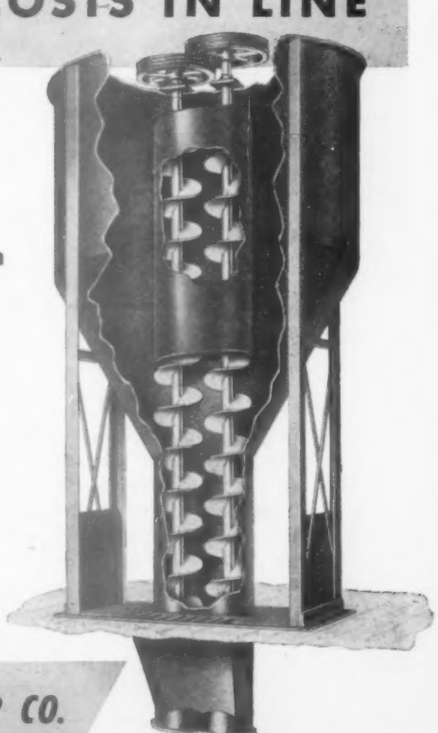

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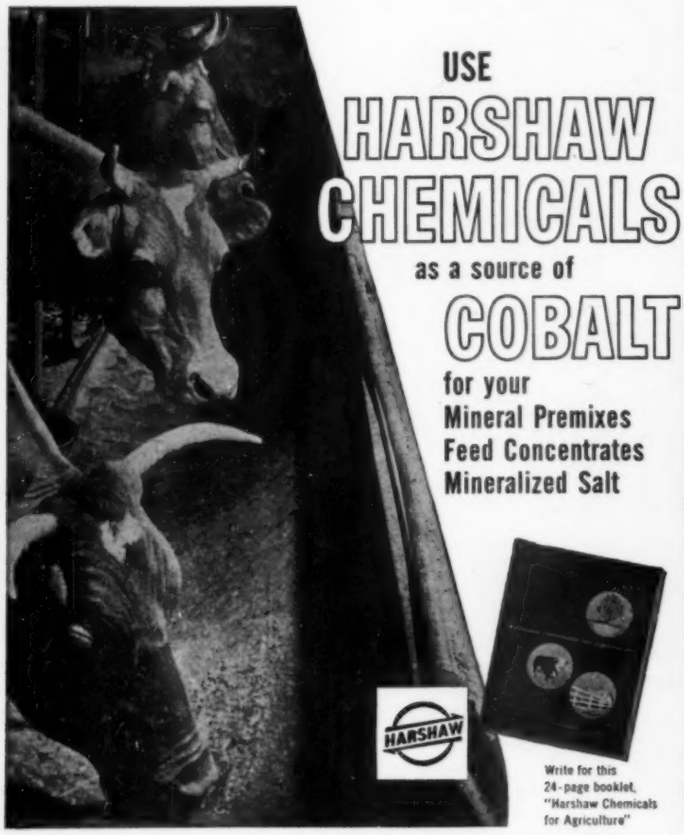

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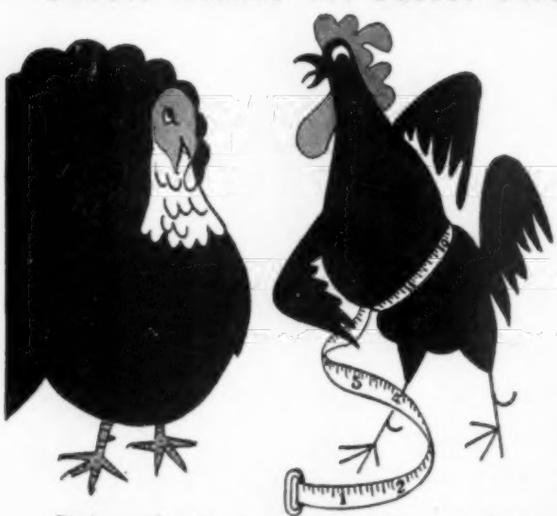

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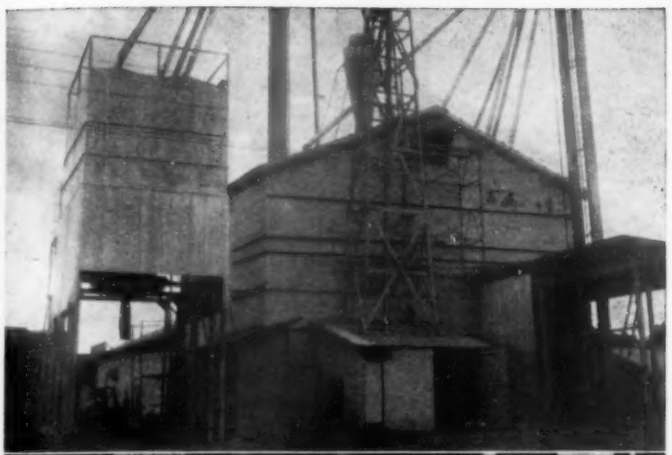

The top photo shows the new Burgess feed mill as it was nearing completion at Garrison, Texas. The firm bought an old mill and converted it into a modern operation. The bottom picture shows the operator at the scale dial and control panel for proportioning and mixing.

Texas Broiler Firm Adds New Feed Milling Facilities

By Jess F. Blair
Feedstuffs Special Writer

Burgess Poultry Marketing, Inc., of Nacogdoches, Texas, is one of several broiler companies in Texas striving for complete integration in growing and selling broilers. Heretofore the company bought broilers from other growers and sold the finished birds to a super market chain.

Then a few months ago a decision was made to buy an old mill at Garrison, Texas, and convert it into a modern feed mill that would supply feed for the company's own flocks that were being started.

The mill and broiler farms, a subsidiary of the main company, are known as Burgess Poultry Farms-Mill. The manager of the mill is Joseph C. Ramey, who has been with the company many years.

"We found that the only way a processing plant can keep a sufficient number of birds is to grow them," he explained. "The supply at times has been plentiful, and at other times there have not been enough."

The old mill was stripped of all machinery and new equipment installed. The mill was designed by Barham Hand, chief engineer with the processing company.

"The mill is built to make our own poultry feeds," said Mr. Ramey. "We will make a complete feed, including our own premixes. We will use both animal and vegetable fats, with latter being in the form of soybean oil."

The mill will have storage for 170 tons of corn and milo, 40 tons of premixes and other ingredients, and storage for 64,000 lb. of fats. There is also storage for 40 tons of ground grain. The finished feed will be stored in four 12-ton bins and two 8-ton bins.

The mill is operated from a panel board.

Production capacity will be about 150 tons for an eight-hour shift, according to Mr. Ramey. The feed will be delivered to the grower farms by two bulk trucks of 16 and 20-ton capacities.

Heading the company is Tim D. Burgess, president, who is a 20-year veteran in the broiler business. He will continue to maintain his office at the processing plant in Nacogdoches, which is about 20 miles southwest of Garrison. The mill was located at Garrison because this is closer to the grow-out farms.

Farm Growers

In setting up new farm growers, the company requires the farmer to construct his own buildings, install

Joseph C. Ramey is manager of the new mill built by Burgess Poultry Marketing, Inc.

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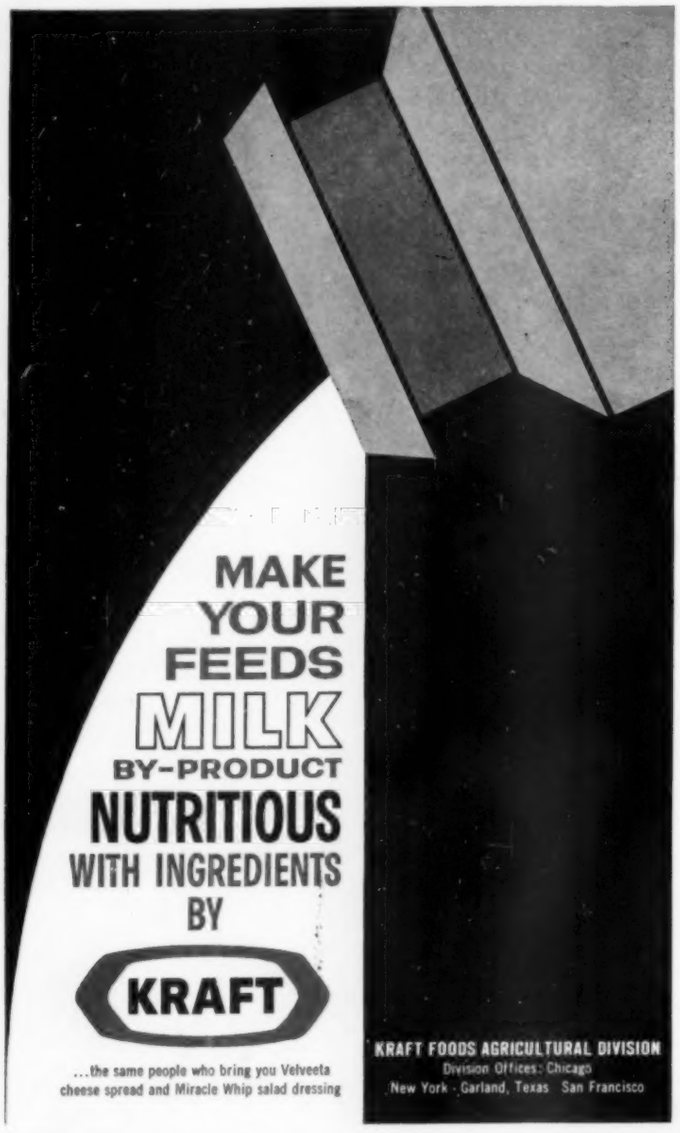


One of the new poultry houses where broilers will be grown on contract for the Burgess company. This one is located on a main highway just outside the town. It is 30 ft. wide and 417 ft. long. The farm grower built two of these houses.

automatic feeders and waterers and provide for heat and ventilation. He will be paid on a contract basis for each pound of broiler sold plus a bonus for a good feed conversion.

The new houses are constructed of metal and hold an average of about 15,000 birds each. Two recently finished on the R. P. Key farm just outside Garrison are 417 ft. long and 30 ft. wide. Most of the houses are being located as close to the mill as possible to reduce hauling expenses.

Although the company already had a few houses, the volume was not sufficient. At present the output is around a half million broilers every nine or ten weeks, and by next spring the company hopes to have over a million on feed.

The company is selling whole birds to a large super market chain under the stores' own label. These are delivered by Burgess Poultry Market trucks in 1, 5 and 10-lb. packs. Though this is one of the main outlets, the broilers are also delivered to other stores in the area. With the large increase in broilers, the company is now building new markets for the near future.

"The broiler market has had too many lows," said Mr. Ramey, "so any company that survives must acquire a greater control over its operations. This means getting into complete integration as soon as possible. We figure our new mill and farm grower contracts are a step in that direction. The only thing we don't have now are the hatchery and breeder farms."

Auburn Studies Summer Stress on Layers

AUBURN, ALA.—Based on Auburn University research results, it appears that some accepted concepts concerning heat stress in poultry may need revising.

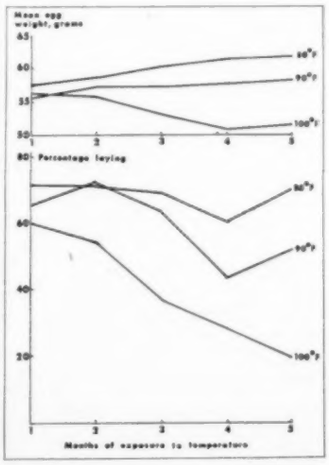
That is the report of J. R. Howes, department of poultry science, and Walter Grub and C. A. Rollo, department of agricultural engineering.

They say their research shows that White Leghorn pullets produce adequate good eggs at 80°F. It was also found, they say, that these birds produce as well at 80°F. as at 50-60° F. "This is contrary to earlier, limited work elsewhere that showed 50°-60° F. as the best temperature for laying poultry," the three research men said.

They continued, saying, "USDA work has indicated that birds will not survive at 100°F. and 60% relative humidity. However, in Auburn studies females not only lived under these conditions but produced eggs."

The effect of high temperatures on egg weight and egg production is illustrated in the accompanying graphs developed from the Auburn research findings.

The Auburn research team says, "Especially from the standpoint of the Southeast, results indicate that laying White Leghorn pullets will adequately produce when the temperature is as high as 80° F. Since a man not exerting himself in heavy work begins to perspire at about 80° F., the poultryman can serve as his own thermometer. When the operator begins to feel uncomfortable, he can assume his hens are likewise affected. This would be his signal to take practical steps to alleviate high temperatures."



STRESS—The above graphs show the effect of high temperature on laying White Leghorn pullets in Auburn University experiments. There were 80 birds to each treatment, all on 14 hours light daily and 60% relative humidity and ventilated at 1 cu. ft. per minute per bird.

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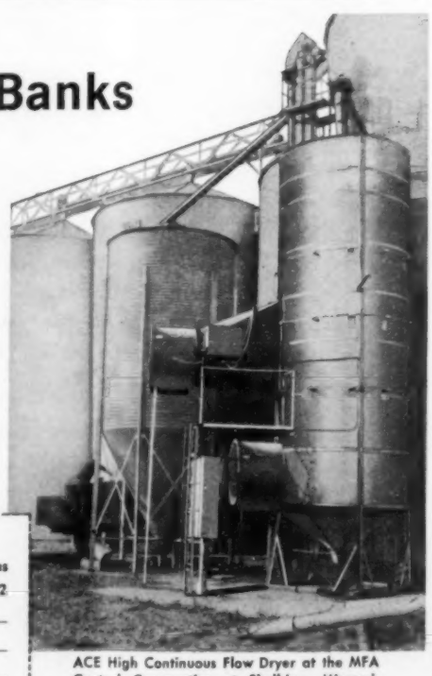

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Amino Acid Needs Studied at Smith Lifeline Symposium

PORT MONMOUTH, N.J.—Amino acid needs came in for considerable study at the third Smith Lifeline Fish Products Symposium held at the J. Howard Smith, Inc., plant here Aug. 16.

Featured speakers were Dr. Hans Fisher, Rutgers University, and Dr. Gerald Combs, University of Maryland. The guests included representatives of 35 feed mills in the Northeast.

Dr. Combs spoke on the "Amino Acid Requirements for Laying Hens." His work, as presented, has correlated amino acid requirements to energy intake and pointed out how seasonal differences affect amino acid requirements, the Smith firm said. Dr. Fisher spoke on "Amino Acid Balances and Imbalances" and showed how a shortage of one essential amino acid will reduce growth even when ample protein is available. Dr. Fisher and Dr. Combs both strongly supported feed formulating in terms of amino acids and not percentage protein. Lower total protein would be much more effective when well balanced in essential amino acids than a poorly balanced high protein diet, they said.

This meeting concluded the 1961 series of three symposiums held by the Smith organization. Two meetings were held at Port Monmouth and one at Lewes, Del. Numbered in the speakers this year were Dr. H. M. Scott, Dr. Rollin Thayer, Dr. Hans Fisher, Dr. Len Dansky, Dr. E. L. Stephenson, Dr. Elbert Day and Dr. Gerald Combs.

The guests, numbering almost 175, included most of the major users of fish meal in the country. The Smith organization has estimated that possibly 75% of the fish meal consumed in the U.S. was represented at one or another of the meetings.

All meetings provided the latest technical information, a trip out onto the water to watch the menhaden fishing operation and a complete tour of the Smith processing plants, the firm pointed out.

The sponsoring firm reports that it expects to make the meetings an annual event.

SYMPOSIUM—Speakers at the recent third Smith Lifeline Fish Products Symposium are shown here. From left to right, are: Tom Barber and Dr. I. William Lane, J. Howard Smith, Inc.; Dr. Hans Fisher, Rutgers University, and Dr. Gerald F. Combs, University of Maryland.

Firm Provides 43,570 Pullets for 4-H Project

SEARCY, ARK. — Arkansas 4-H clubs have received more than 43,000 pullets from Erving's Hatcheries at Searcy since 1958. The birds, totaling 43,570, have been furnished by the firm as part of a state program entitled "4-H Club Poultry Chain Project."

For every 100 pullets purchased by the clubs, Erving's has donated 100 pullets free of charge as its contribution to the program, says George Riley, hatchery manager at Searcy.

The 4-H Club Poultry Chain is described as a supervised youth activity conducted by the Arkansas Agricultural Extension Service. It is aimed at giving the individual club members an interest in poultry production and the over-all poultry industry.

Each year, the poultry chain project starts out with the selection of at least 10 4-H club members in each county by the county agents and home demonstration agents. Approximately 500 baby chicks are purchased with county funds from Erving's or one of the cooperating hatcheries, and the hatchery then contributes another 500 pullets free. The 1,000 pullets are then divided among the selected club members, who must raise them.

When the birds are about six months old, each 4-H member returns 15 pullets he has raised to a show and sale. At the show, the various management and feeding programs are compared. The pens of birds are judged and awarded blue, red and white ribbons. Cash prizes of $80 per county are donated by a national foundation. The birds are sold as started pullets after the show, and the money is used to buy day-old pullets for the next year's program.

The reported objectives of the 4-H Club Poultry Chain program at the community level are to encourage better management of the family laying flock, to increase interest in poultry as a farm enterprise and to improve poultry production and quality of poultry products.

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Free Turkeys of Chiggers

Turkey growers who are having problems with chiggers in their range birds should be interested in what two Arkansas men have done about it.

Jim and Jimmy Parrish of the Norristown Mountain area, near Morrilton, Ark., have solved their problems with chiggers by applying heptachlor to their turkey ranges.

County Agent W. C. Young said the Parrishes applied 1 lb. of heptachlor to the acre in the form of 20 lb. of 5% granules on a 13-acre range.

The chemical was put on in September of 1960. They put 20,000 turkeys on the range, and in late June, Mr. Young checked the birds and found them free of chiggers.

On a nearby range which had not been treated, from five to seven chiggers were found on a large sampling of birds.

Chiggers have caused serious problems in some areas, principally because they produce blemishes on the skin that sometimes lower the grade, Mr. Young said. In some instances, processors have even refused to accept birds with chigger blemishes.

Mr. Young said the Parrishes applied the heptachlor granules with a cyclone seeder.

◆

Calves' Stomachs Adjust

Farmers feeding calves have been advised that calves fed hay and grain along with limited milk rapidly adjust their digestive systems, not merely to digest these feeds but also to absorb the products of the digestive process.

J. D. Sutton, Iowa State University researcher, points out that in cattle and sheep the rumen, primarily site for digestion of roughage and grain, is small at birth and has little function.

As part of an Iowa State study of various aspects of the development of the rumen, Mr. Sutton and his associates measured the amount of acetic acid, one of the main products of rumen fermentation, which the calves were able to absorb from their rumens at 1, 4, 8 and 13 weeks of age. When calves were fed only milk, their rumens were unable to develop normally, and little acid could be absorbed even at 13 weeks.

However, when calves were fed hay and grain in addition to milk, there was a rapid development of the rumen, and by 13 weeks the absorptive ability was 20 times greater than that in the milk-fed animals. This would lend further support to the results of recent feeding trials at Iowa State showing that calves fed milk for only four weeks grow satisfactorily when also fed good starter from an early age, Mr. Sutton said.

One calf was maintained on milk to eight months of age without showing an increase in absorption rates. However, a calf switched to milk, hay and grain at four months soon developed the ability to absorb efficiently, it was reported.

◆

Broiler Blisters Cut

Poultry producers can save much of an estimated $5 million lost annually because of breast blisters by following four simple rules, advise Louisiana State University extension personnel.

Pointing out that breast blisters cause serious downgrading of broilers processed in plants operating under the Poultry and Poultry Products Inspection Act of 1959, they suggest:

(1) Keeping litter dry and at least 6 in. deep.

(2) Allow 1 sq. ft. of floor space per bird.

(3) Marketing birds at 8 to 8½ weeks of age.

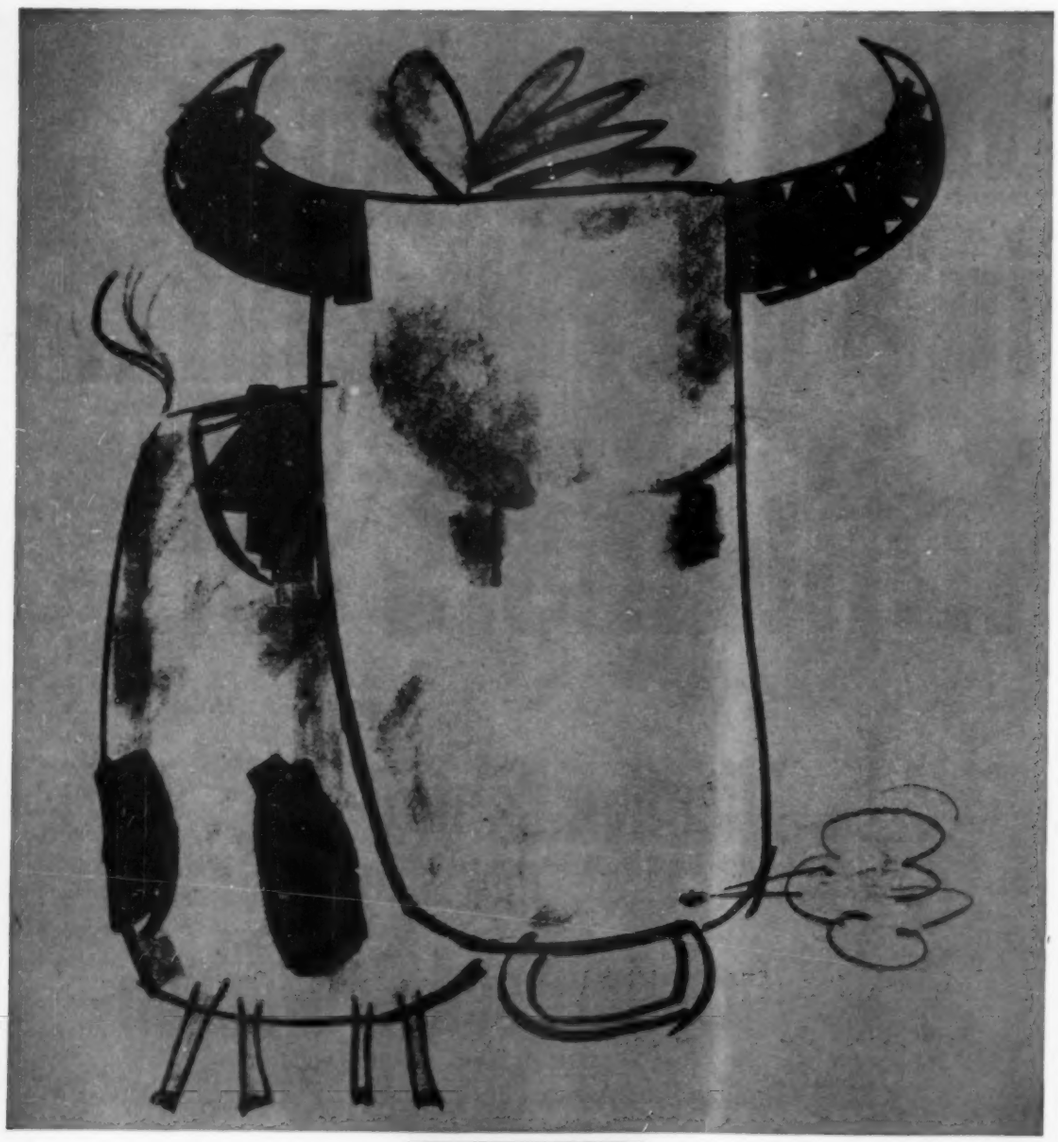
(4) Avoid sudden noises which cause birds to crowd together or pile.

◆

More Meals for Cows

The dairyman may get along fine on three meals per day, but his cows get along better if the table is set oftener. That's the advice given by Borden Ells, dairy specialist at New Mexico State University.

Mr. Ells says scientists at Missouri Agricultural Experiment Station can shed some light on the subject. They divided 21 Guernsey cows into three experimental groups which were fed either two, four or seven times daily. The cows were kept in a tie-stall barn and were allowed to go outside for exercise for one hour daily in early afternoon. Each cow was fed daily 16 lb. of good quality alfalfa hay, 4 lb. of beet pulp, and



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grain according to production. They were given three hours to eat the feed before the amount left was weighed. They were milked twice a day.

The scientists found that the groups fed four to seven times a day produced significantly more milk than the group fed twice a day. Cows fed four times a day gave 14% more milk and ate 7.3% more dry matter than those fed twice a day. Frequency of feeding had no measurable effect on body weight.

The cows fed four to seven times a day could digest more of the dry matter they ate than did cows fed twice a day.

Mr. Ells sees some practical implications in the tests: It is possible to get more energy into a dairy cow by feeding her more often than twice a day. So, dairymen with high producing herds would profit by feeding grain to the cows more than twice a day to encourage the cows to eat more and also to get more efficient use of the feed.

Little was gained by increasing the frequency of feeding from four to seven times a day. Four times should be enough, says Mr. Ells.

◆

Egg Shell Germicide

A Clemson research worker recently completed a test of 24 commercial egg-washing compounds and several individual chemicals to evaluate germicidal effect. He found that zinc sulphate seems to possess all the qualities of an ideal egg shell germicide for Salmonella typhimurium, one of the most prevalent disease organisms.

Dr. Bert W. Bierer, veterinarian with the poultry department of Clemson, says that zinc sulphate is noncaustic, almost odorless and nontoxic externally. He also states that it is low in cost and readily available.

Dr. Bierer recommends that eggs be washed as soon as possible after gathering and emphasizes that this step is an adjunct rather than a substitute for routine fumigation or farm and hatchery sanitation.

Livestock, Poultry In Canada Increase

OTTAWA, CANADA—A glance at various statistical reports on the livestock and poultry situation in Canada shows this situation:

Chickens—Egg Production: Hatchery production of egg-type chicks during the first half of 1961 was down 2.9% from a year earlier, with a total of 44.6 million.

Chickens — Broilers: Broiler production continues to set records. For the first half of 1961, the number of birds produced was up 26.3%, with the total at 50.5 million, compared with 40 million in 1960.

Cattle: The number of cattle and calves on farms increased more than 5% to 12.1 million head on June 1. Milk cow numbers increased 2.5%; beef cattle numbers were up 6.7%.

Hogs: Number of hogs on farms on June 1 totaled nearly 5.9 million, up 7% from a year earlier. Farrowings for the June 1-Nov. 30 period were expected to increase by 18% from a year earlier, but the drouth may alter the situation greatly.

Turkeys: Turkey slaughter through July 15 was up 34.8%. The price July 18 at London, Ont., was 23¢ lb., down 3¢ from a year earlier.

Sheep: Sheep and lamb numbers as of June 1 were down 4% from a year earlier. The total was 1.7 million.

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Ground Snapped Corn Aids Finishing Hogs

GAINESVILLE, FLA.—Improvement in carcass value was sufficient to offset the slightly higher total feed costs and permit a greater return from hogs fed ground snapped corn after reaching a weight of 100 to 150 lb., tests conducted at the Florida Agricultural Experiment Station indicate.

Dr. H. D. Wallace, researcher at the station, states that the tests were undertaken because, under certain contitions in Florida, it is more advantageous to harvest corn as snapped ear corn with considerable shuck than to remove the shuck or shell the corn in the field. Florida swine producers with snapped corn on their farms are interested in utilizing this material in swine feeding, said Dr. Wallace.

In the Florida tests, 60 weanling pigs of mixed breeding were divided according to litter, sex and weight into four similar groups. The feeding treatments were:

(1) Corn meal ration for entire growing-finishing period.

(2) Corn meal ration to 150 lb., snapped corn ration thereafter.

(3) Corn meal ration to 100 lb, snapped corn ration thereafter.

(4) Snapped corn ration for entire growing-finishing period.

Substituting ground snapped corn for corn meal for various periods of time during the growing-finishing period of swine produced the following results:

(1) Slowed gains and increased time required for animals to reach a given market weight.

(2) Increased the feed required per unit of gain substantially enough so that the cheaper ground snapped corn ration became the most expensive under the conditions of the experiment.

(3) Increased the leanness of carcasses considerably as shown by a decreased backfat and an increased loin eye area and percent of lean cuts.

Dr. Wallace says that the data suggest limiting the use of ground snapped corn to the finishing phase of the growing-finishing period.

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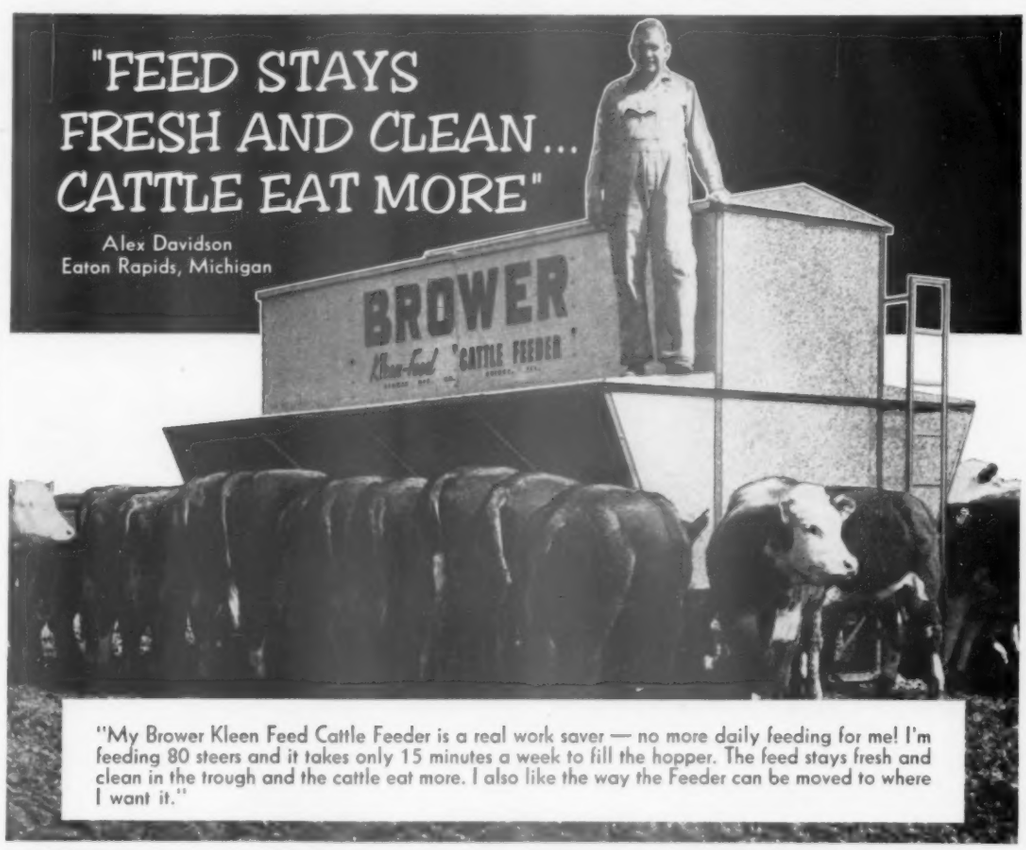

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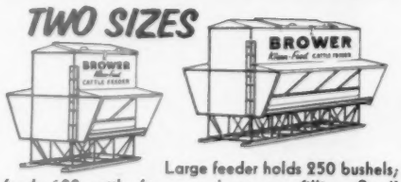

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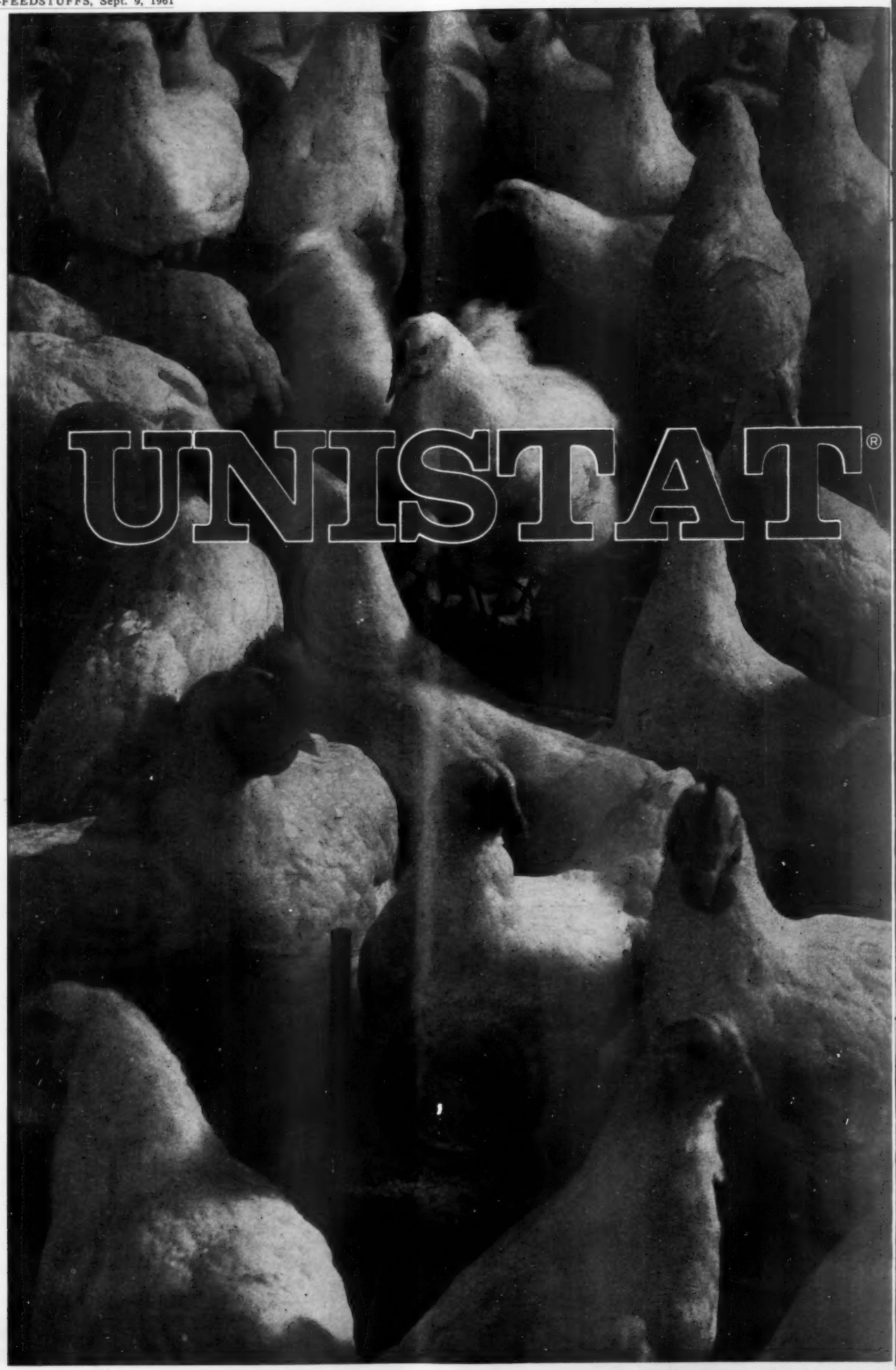
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FEEDSTUFFS
A WEEKLY NEWSPAPER
For the Feed Manufacturer, Feed Jobber
Feed Broker and Feed Dealer

Monthly Index
July, 1961
Volume 33 Numbers 26-30

ADDITIVES:
Beef Quality as Influenced by Cattle Rations ..... July 8—p 72

AMINO ACIDS:
Amino Acid Diet ..... July 1—p 4
Putting Research to Work ..... July 22—p 64; July 29—p 38
Studies of Least Cost Rations Containing Cottonseed Meal as Affected by Lysine Supplementation ..... July 1—p 74
Use of Vitamins, Drugs, Flavor, Amino Acids, Minerals, Enzymes Discussed ..... July 22—p 56

ANTIBIOTICS:
Canadian Researchers Say Swine Fed Antibiotics Do Better ..... July 22—p 44
Dipping of Eggs for PPLO Cuts CRD, Western Group Told ..... July 15—p 23
Tylosin Cleared for Drinking Water Use ..... July 29—p 6
Use of Vitamins, Drugs, Flavor, Amino Acids, Minerals, Enzymes Discussed ..... July 22—p 56

ANTI-FUNGAL AGENTS:
Use of Vitamins, Drugs, Flavor, Amino Acids, Minerals, Enzymes Discussed ..... July 22—p 56

ARSENICALS:
Use of Vitamins, Drugs, Flavor, Amino Acids, Minerals, Enzymes Discussed ..... July 22—p 56

ASPIRIN:
Aspirin for the Chickens, Too ..... July 29—p 7

AUTHORS:
Anderson, Dr. J. O.
Enzymes in Barley Rations for Poultry ..... July 22—p 42
Arscott, Dr. G. H.; Brown, Dr. W. G.
Studies of Least Cost Rations Containing Cottonseed Meal as Affected by Lysine Supplementation ..... July 1—p 74
Bechtel, Dr. H. Ernest
Dairy Nutrition—New Frontier ..... July 22—p 70
Berglund, Roger
Determine Your Feed Sales Potential, Then Get Into the Details of Mill Planning ..... July 1—p 50
Bickford, R. L.
Appraisal of Coccidiosis Vaccination for Replacement. July 22—p 26
Blair, Jess F.
Some of Mississippi Broiler Growing Shifting to Egg Output ..... July 29—p 68
Bransike, V. John
Review of Research on Economic Developments and Trends in a Changing Feed Industry ..... July 22—p 82
Brown, Dr. W. G. (See Arscott, Dr. G. H.)
English, Francis
Here Are Some Service and Operational Ideas That Work for Feed Company in Pennsylvania ..... July 29—p 18
Fisher, Clarence, Jr.
Least Cost Methods of Beating the Heat in Broiler Houses ..... July 1—p 32
Hale, Dr. Wm. H.
Recent Vitamin A Studies With Beef Cattle ..... July 29—p 50
Halloran, Hobart R.; Lyle, J. Bradford; Nakaue, Harry S.
Magnesium for Laying Pullets ..... July 15—p 40
Lyle, J. Bradford (See Halloran, Hobart R.)
Matsushima, Dr. J. K.
Beef Quality as Influenced by Cattle Rations and Cattle Feeding ..... July 8—p 72
Nakaue, Harry S. (See Halloran, Hobart R.)
Nelson, Al P.
Feed Man Promotes Feed on Basis of What It Will Accomplish ..... July 29—p 26
Grain Bank Plan Helps Custom Mill Owner Give Better Service ..... July 1—p 58
Keeping Customer Informed Is More Than An Obligation It Can Gain Business, Too ..... July 15—p 18
Ohio Firm Meets Challenge of On-the-Farm Grinding, Mixing ..... July 8—p 22
When New Mill Was Erected, Wisconsin Firm Made Good Use of Its Old Machinery ..... July 22—p 18
Rutter, Jim; Tunks, Fred E.
What About SPF Swine and the Feed Industry ..... July 8—p 26
Seiden, Dr. Rudolph
Iron Treatment of Pig Anemia ..... July 15—p 84
Stratton, Charles L.
Feed Serviceman Specializes in Servicing Broiler Flocks ..... July 1—p 34
Thomas, C.
Stahmanns of New Mexico Hatch, Feed and Process 300,000 Geese Annually ..... July 22—p 62
Tunks, Fred E.
Pelleting Is One of Latest Wrinkles in Manufacturing Feeds for Pigeons ..... July 15—p 52
Wills, Dr. Walter J.
Past and Future Patterns of Regional and National Growth in Livestock Production ..... July 8—p 18

ASSOCIATIONS:
Alabama Poultry Industry Assn. (Convention) ..... July 1—p 6; July 8—p 7
American Association of Feed Microscopists (Convention) ..... July 22—p 32
American Dairy Science Assn. (Meeting) ..... July 1—p 33
American Dehydrators Assn. (Research Council) ..... July 15—p 4
American Feed Manufacturers Assn. (FDA Regulation) ..... July 1—p 7
(Feed Additive Reprints Available) ..... July 15—p 92
(Industry Pushes for Delaney Clause Change) ..... July 1—p 1
Animal Health Institute (Animal Health Month) ..... July 15—p 8
(Industry Pushes for Delaney Clause Change) ..... July 1—p 1
American Poultry & Hatchery Federation (Confidence in Upper Midwest Broiler Industry) ..... July 22—p 1
(Meeting) ..... July 22—pp 6 & 8
Animal Nutrition Research Council (Vit. A Standard) ..... July 15—p 82
Canadian Feed Manufacturers National Assn. (Appt.) ..... July 15—p 98
Georgia Feed Assn. (Convention) ..... July 22—p 1; July 29—p 10
(Southern Nutrition Conference Proposed) ..... July 22—p 6
Georgia Feed Dealers Assn. (Favors Broiler Controls) ..... July 22—p 4
Louisville Feed Club (Election) ..... July 29—p 14
Midwest Feed Manufacturers Assn. (Meeting) ..... July 1—p 83; July 8—p 85
National Broiler Council (Ad Service) ..... July 1—p 42
(Appointment) ..... July 29—p 66
(Board Representatives) ..... July 15—p 17
(NBC Conducts Poll on Its Ad Service) ..... July 29—p 6
(Meeting) ..... July 22—pp 1 & 6
(Sales Promotion) ..... July 15—p 51
National Turkey Federation (Check Artist) ..... July 1—p 84
Nebraska Alfalfa Dehydrators Assn. (Election) ..... July 1—p 78
Northeastern Poultry Producers Council (Meeting) ..... July 29—p 1
Oregon Poultry & Hatchery Federation (Convention) ..... July 1—p 14
Pacific Northwest Grain Dealers Assn. (Convention) ..... July 1—p 24
Pennsylvania Poultry Federation (Conference) ..... July 15—p 7
Poultry & Egg National Board (Meeting) ..... July 1—pp 6 & 48

BARLEY:
California Feeders Day ..... July 29—p 1

CANADA:
Cattlemen to Get Drouth Aid ..... July 29—p 70
Canadian Hog Output May Be Cut Back ..... July 29—p 48
Number of Canadian Hogs Increases 7% ..... July 22—p 89
Ontario Wheat Board Suggests Feed Use ..... July 29—p 67
Poultry Production Drops Off ..... July 1—p 57
Shipments of Feed Up in April ..... July 1—p 4
Teletype Egg Selling Studied ..... July 22—p 91

CATTLE FEEDING:
Beef Quality as Influenced by Cattle Ration ..... July 8—p 72
Colorado Workshop Suggests Guideposts for Cattle Industry ..... July 15—p 1

COCCIDIOSTATS:
Appraisal of Coccidiosis Vaccination for Replacements. July 22—p 26

COMPANIES:
Abbott Laboratories (Asks Drug Checks) ..... July 22—p 76
Ahrens, Les (Mobile Milling Operation) ..... July 15—p 32
Albers Milling Co. (Jury Rules for Both Feed Firm, Producer) ..... July 8—p 4
Allied Mills, Inc. (Appointment) ..... July 29—p 66
(Promotion) ..... July 8—p 6
Altamil Corp. (Buys ADM Equipment Unit) ..... July 15—p 6
American Cyanamid Co. (Appointments) ..... July 1—p 78; July 22—p 10
(Executive Offices of Ag. Division to Move) ..... July 22—p 7
(Promotion) ..... July 22—p 10
Anderson Box Co. (Texas Branch) ..... July 1—p 59
Arkansas Valley Industries, Inc. (General Office Location) ..... July 8—p 84
(Opens Hatchery) ..... July 22—p 11
(Reelects Officers) ..... July 8—p 7
(Reports Profit for Quarter) ..... July 29—p 1
Bakers, Inc. (Keeping Customer Informed) ..... July 15—p 18
Barnard & Leas Manufacturing Co., Inc. (Mobile Pellet Mill) ..... July 8—p 14
Bartlett-Snow-Pacific, Inc. (Promotion) ..... July 8—p 8
Beckley Commercial Feedyard (Feedlot Mill Turns Out Diversified Line of Feed) ..... July 15—p 76
Bemis Bro. Bag Co. (Appointment) ..... July 1—p 78
(Retirement) ..... July 29—p 67
Blewett-Little Grain Co. (Retirement) ..... July 29—p 69
Brown, H. M., & Co. (Fire Hits Firm) ..... July 15—p 4
Buckeye Incubator Co. (Election) ..... July 22—p 10
Butler Mfg. Co. (Partner in New Foreign Firm) ..... July 15—p 95
Cargill, Inc. (Buys Pittsburgh (Pa.) Grain Elev. Corp.) ..... July 29—p 71
(Buys Soy-Rich Products, Inc.) ..... July 29—p 1
(Feeding Results With Lignin Extract) ..... July 15—p 10
(Promotion) ..... July 29—p 66
(Special Barge to Lift Grain at Wheeler Dam) ..... July 1—p 7
Cargill Grain Co., Ltd. (Election) ..... July 29—p 66
Central Soya (Management as Key to Growth) ..... July 15—p 66
(Turkey Research Construction) ..... July 1—p 11
Cereal By-Products Co. (Appointment) ..... July 15—p 94
Choctaw Poultry & Egg Co. (New Poultry Firm in Mississippi) ..... July 15—p 98
Ciba, Ltd. (FAO Plans Attack Against Diseases) ..... July 8—p 32
Cole Grain Co. (New Mill Operating) ..... July 22—p 90
Colorado Milling & Elevator Co. (New Mill) ..... July 8—p 4; July 29—p 71
Columbian Feed Co. (Production Expands) ..... July 29—p 69
Constantflo Machinery Co. (Protein Block Unit) ..... July 15—p 104
Cooperative G.L.F. Exchange (Appointment) ..... July 1—p 78
(New Bulk Facility at Albany) ..... July 1—p 24
(New High Energy Feed) ..... July 15—p 79
Copiah Milling & Livestock Feeding Co. (5,000 Head Feedlot, Mill in Mississippi) ..... July 15—p 86
Crete Mills (Cattle Starter Feed) ..... July 15—p 7
Darragh Co. (Appointment) ..... July 1—p 78
(Feed Firms Pioneering Fish Farms) ..... July 1—p 76
Davies, Wm., Inc. (Sales Gain) ..... July 1—p 11
(School for Personnel) ..... July 22—p 11
(Swisher Test Farm Plans SPF Project) ..... July 8—p 7
Day Sales Co. (Appointment) ..... July 29—p 67
DeWitt Industries, Inc. (Plans Poultryama Event) ..... July 22—p 19
Dodgen Industries, Inc. (Consolidation) ..... July 15—p 6
Eastern States Farmers Exchange (Dairy Pellet Change) ..... July 22—p 44
(Feed Developments) ..... July 15—p 96
(Feed Serviceman Specializes in Servicing Broiler Flocks) ..... July 1—p 34
(Layar Feed Formula Change) ..... July 22—p 17
(Market Cooked Poultry Products) ..... July 22—p 52
(Moves Formulation Office) ..... July 22—p 48
Electric Reduction Co. (New Plant) ..... July 1—p 65
Ewing, Ray, Co. (New Tissues Culture Newcastle Vaccine) ..... July 1—p 11
(Honors Retiring Jack Pionsky) ..... July 22—p 4
Farm Bureau Cooperative Assn., Inc. (Retirement) ..... July 8—p 4
Farm Bureau Milling Co. (Plaque Presented) ..... July 8—p 4
(Retirement) ..... July 8—p 4
Farm Bureau Services, Inc. (Officials) ..... July 22—p 24
Farmers Elevator Cooperative (New Mill) ..... July 22—p 18
Foxbilt Feeds (Offers Poultry Housing Plan) ..... July 8—p 36
Fruen Milling Co. (Appointment) ..... July 1—p 78
Garvey Grain, Inc. (Acquires K. C., Chicago Storage) ..... July 1—p 4
General Mills, Inc. (Close Ohio Soybean Operation) ..... July 15—p 6
(Financial Report) ..... July 1—p 1
(Reports Larger Feed Volume) ..... July 29—p 1
Gooch Feed Mills Co. (Red Circle Auction) ..... July 1—p 48
(Research Study) ..... July 15—p 83
Grace, W. R., & Co. (Appointment) ..... July 29—p 66
(Promotions) ..... July 22—p 10
Grain Dealers, Inc. (Group Buys Land for Grain Storage) ..... July 15—p 59
Hand, Peter, Foundation (To Open Plant in Charlotte) ..... July 29—p 4
Happyhome Farm Feed Mill (Expansion) ..... July 1—p 16
Hayward Poultry Producers Assn. (Improvements Progress) ..... July 22—p 40
(Rio Linda Poultry Producers Assn. Merges) ..... July 29—p 57
Heisdorf & Nelson Farms, Inc. (Appointment) ..... July 22—p 10
Hespenheide & Thompson Co. (Service and Operational Ideas) ..... July 29—p 18
Hess & Clark, Inc. (Furazolidone Test on Breeders) ..... July 15—p 11
Hi-Way 64 Feed Store (Farm Contacts Play Vital Role) ..... July 15—p 88
Honeggers' & Co., Inc. (Appointment) ..... July 29—p 66
Honegger Farms Co. (Election) ..... July 15—p 10
Hot Spot Detector (Appointment) ..... July 15—p 94
Idah-Best, Inc. (Appointments) ..... July 15—p 94; July 29—p 66
Illinois Farm Supply Co. (New Home Office) ..... July 22—p 29
Imperial Belting Co. (Appointment) ..... July 29—p 66
Impro, Inc. (To Distribute 'Pigloos') ..... July 1—p 83
Indiana Farm Bureau Co-op (Plaque Presented) ..... July 8—p 4
International Paper Co. (Promotion) ..... July 15—p 94
Kent Feeds, Inc. (Tour at New Plant) ..... July 1—p 75
Kroger Co. (Appointment) ..... July 22—p 10
L. & M. Laboratories (Appointment) ..... July 15—p 94
(Blended Newcastle Vaccine Licensed) ..... July 8—p 85
Lakeshore Manufacturing Co. (Appointment) ..... July 29—p 66
Lilly, Eli, & Co. (27 Research Grants) ..... July 8—p 62
Lindsay-Robinson & Co. (Mill Acquired by Bank) ..... July 1—p 6
Mar-Jac Poultry Co. (Appointment) ..... July 1—p 7
Master Mix Feeds (Central Soya, Italian Firm Plan Joint Company) ..... July 15—p 1
Merck & Co., Inc. (Amprol Plant Expansion) ..... July 29—p 13
(Thibenzole Adopted as Merck Trademark) ..... July 22—p 16
(Water Medication Solution Introduced) ..... July 15—p 11
Midwest Bag Co. (Appointment) ..... July 1—p 78
Munson Mill Machinery Co. (Appointment) ..... July 22—p 10
National Bio-Zyme, Inc. (S. D. Firm to Handle Bio-Zyme Products) ..... July 22—p 29
National Dairy Products Corp. (Kraft Foods Milk Replacer Promotion) ..... July 22—p 86
Nebraska Boiler Co. (Plans New Factory, Offices) ..... July 1—p 83
Nelligan Bros. Feed & Seed Co. (Destroyed by Fire) ..... July 22—p 89
Neptune Meter Co. (Election) ..... July 1—p 78
Nopco Chemical Co. (Appointment) ..... July 29—p 66
Nuleid Farmers Assn. (Appointment) ..... July 22—p 10
Nutrena Mills, Inc. (To Open North Carolina Mill) ..... July 15—p 4
Ohio Farm Bureau Cooperative Assn. (Annual Report) ..... July 15—p 14
Peavey, F. H., & Co. (Appointment) ..... July 1—p 78

Pennsylvania Farm Bureau Cooperative Assn. (Coop Mills to Run Farm Bureau Plant) ....July 8—p 84
Pfizer, Chas., & Co., Inc. (Acquires Enzyme Firm) ....July 1—p 6
(Acquires New England Lime) ....July 29—p 8
(New Department) ....July 1—p 10
(Opens New Poultry Diagnostic Lab.) ....July 1—p 85
Pillsbury Co., The (Appointments) ....July 1—p 4; July 29—p 4
(Promotion) ....July 1—p 78
(Sales, Earnings Increase) ....July 22—p 1
Pittsburgh (Pa.) Grain Elevator Corp. (Sold to Cargill, Inc.) ....July 29—p 71
Pless, Joe N., Co. (Opens Forest, Miss., Facility) ....July 22—p 7
Protein Blenders, Inc. (Appointment) ....July 1—p 78
(New Poultry Feeds) ....July 22—p 16
(Report Sales Gain) ....July 8—p 7
Publicker Chemical Co. (Molasses Landing) ....July 1—p 4
Quaker Oats Co., The (Appointment) ....July 1—p 78
Ralston Purina Co. (Appointment) ....July 22—p 10
(Purina Officer Changes Told) ....July 29—p 1
(Resignation) ....July 29—p 4
(South America, Europe Expansions) ....July 15—p 22
Raymond Bag Co. (Appointments) ....July 1—p 78; July 29—p 66
Rio Linda Poultry Producers Assn. (Merges With Hayward Poultry Producers Assn.) ....July 29—p 57
S & M Sales, Inc. (Forms New Ingredient Company) ....July 22—p 7
St. Regis Paper Co. (Appointment) ....July 22—p 10
Salsbury's, Dr., Laboratories (Epidemic Tremor Vaccine Developed) ....July 22—p 4
Schaubach Service Center (Sells to Sprout-Waldron) ....July 1—p 42
Scott County Hatchery, Inc. (First Hatch Completed at AVI) ....July 1—p 83
Seco, Inc. (Appointments) ....July 15—p 95; July 22—p 10
Sinton & Bonnheim Feed Co. (Liquid Supplement Distributor) ....July 22—p 87
Smith, J. Howard, Inc. (Fish Meal Symposium) ....July 22—p 14
Southern Bag Corp. (Appointment) ....July 22—p 10
Soy-Rich Products, Inc. (Sold to Cargill) ....July 29—p 1
Spencer Kellogg & Sons, Inc. (Kellogg Allotted One Textron Board Post) ....July 1—p 75
Sprout, Waldron & Co., Inc. (Buys Schaubach Service Center) ....July 1—p 42
Squibb, E. R., & Co. (Food Additive Order for Nystatin) ....July 15—p 4
Stahmann Farms, Inc. (Hatch, Feed and Process 300,000 Geese Annually) ....July 22—p 62
Steckley's Mill & Hatchery, Inc. (Open House) ....July 22—p 85
Steele, H., Co. (Bulk Bodies) ....July 29—p 40
Sterwin Chemicals Inc. (Appointment) ....July 15—p 94
(Scholarship) ....July 1—p 78
Sugarland Industries, Inc. (Appointment) ....July 1—p 78
(Automated Mill) ....July 15—p 41
Sunnyland Packing Co., Inc. (Packer to Grow 3½ Million Birds) ....July 8—p 7
Sun-Ray Feed Mills, Inc. (Horse Feed Supplement) ....July 8—p 85
Technicon Controls, Inc. (Automatic Protein Checking) ....July 15—p 38
Thompson-Hayward Chemical Co. (Appointment) ....July 29—p 66
Turkey Processing, Inc. (Turkey Firm Links Operations) ....July 1—p 80
Tuxedo Feed Co. (Suffers Fire Loss) ....July 15—p 6
Tyson's Poultry Industries Co. (To Start Commercial Egg Unit) ....July 29—p 6
Vineland Poultry Labs. (Personnel Changes) ....July 15—p 94
Walnut Grove Products Co., Inc. (Financial Report) ....July 8—p 1
Waldron Poultry Co. (Processor to Resume Operations in Ohio) ....July 29—p 48
Wapakonata (Ohio) Farmers Grain Co. (On-the-Farm Grinding and Mixing) ....July 8—p 22
Warren Produce Co. (Mississippi Firm Plans Expanded Broiler Operation) ....July 8—p 6
Western Hatcheries S.A. of Mexico (Appointment) ....July 22—p 10
White Elevator Co. (Promotes Feed on Basis of What It Will Accomplish) ....July 29—p 26
Whitmoyer Laboratories, Inc. (Appointment) ....July 29—p 66
Wirthmore Feeds, Inc. (Balloon Brings Sky High Sales) ....July 22—p 84
(75th Anniversary) ....July 15—p 92
Wirthmore Stores (Opening) ....July 1—p 45
Wyeth Laboratories, Inc. (Oral Administration Cleared) ....July 8—p 7

CONDEMNATIONS:
Alabama Poultry Industry Assn. Convention ....July 1—p 6
Young Chicken Condemnations Off ....July 8—p 4

CONFERENCES:
Beef Cattle Day ....July 1—p 55
California Feeders Day ....July 29—p 1
Egg Field Day (Maryland) ....July 29—p 33
Feed Plant Feasibility Workshop ....July 1—p 50; July 8—p 64
Livestock Day ....July 22—p 54
Pennsylvania Poultry Pathologists ....July 22—p 48
Western Poultry Congress ....July 1—p 1; July 8—p 6; July 15—p 54

CONSUMPTION & PRODUCTION:
Arizona Feed Sales Total 309,372 Tons ....July 29—p 47
Feedstuffs Consumption Increases in May ....July 22—p 83

COOPERATIVES:
Economist Says Co-ops Aren't Exempt From Anti-Trust Legislation ....July 1—p 82

CORN:
USDA-Publicker Deal Follows on Heels of Molasses Landing ....July 1—p 4

COTTONSEED MEAL:
Studies of Least Cost Rations Containing Cottonseed Meal as Affected by Lysine Supplementation ....July 1—p 74
Urges Caution on Cottonseed for Layers ....July 22—p 6

CREDIT & FINANCING:
May Broiler Credit in South Up From Month, Year Earlier ....July 8—p 4
Midwest Financing, Contracting Trends Defined ....July 1—p 1
Money Costs Stressed ....July 22—p 1

CROPS:
Sharp Cutback in Corn Shown in USDA Report ....July 15—p 1

DAIRY FEEDING:
Dairymen Like Low-Protein Concentrates ....July 8—p 58
Dairy Nutrition—New Frontier ....July 22—p 70
Putting Research to Work ....July 1—p 38; July 8—p 38

DISEASE:
Abstracts From Abroad ....July 8—p 34
Alabama Poultry Industries Assn. Convention ....July 8—p 7
Appraisal of Coccidiosis Vaccination for Replacements ....July 12—p 26
Dipping of Eggs for PPLO Cuts CRD, Western Group Told ....July 15—p 23
Iron Treatment of Pig Anemia ....July 15—p 84
New Coccidia Strain, Breast Blisters Discussed ....July 22—p 48
Putting Research to Work ....July 8—p 38; July 29—p 38

DRIED BEET PULP:
California Feeders Day ....July 29—p 1

DRIED RUMEN BACTERIA:
Texas Reports Lab. Evaluation of Dried Rumen Contents ....July 22—p 85

DRIED WHEY:
Sees Mobile Units Converting Whey to Protein Feedstuff ....July 15—p 51

EDUCATION:
F. H. Bird Heads Maine Poultry Department ....July 15—p 4

ENERGY:
Putting Research to Work ....July 1—p 38

ENZYMES:
Enzymes in Barley Rations for Poultry ....July 22—p 42
Putting Research to Work ....July 29—p 38

EUROPE:
Traveler Says Broiler, Egg Production Is on Increase in Europe ....July 22—p 53

EXPORTS:
Capital Comment ....July 1—p 8
Solons Ask for More Poultry Export Effort ....July 8—p 14

FARM PROGRAM:
Controls Killed; Grain Action Not Yet Definite ....July 1—p 1
Dr. Cochrane Tells How Ag Act Would Work With Eggs ....July 8—p 14
Oregon Poultry & Hatchery Federation Convention ....July 1—p 14
Senate Unit Acts on Grain, Other Farm Provisions ....July 8—p 1
Sharp Cutback in Corn Shown in USDA Report ....July 15—p 1

FEED INDUSTRY:
Review of Research on Economic Developments and Trends in a Changing Feed Industry ....July 22—p 82

FEED SUPPLIES:
Galvin Agrees With Forecasts of More Soybeans, Less Corn ....July 8—p 1

FISH FOOD:
Arkansas Feed Firms Pioneering Fish Farms ....July 1—p 76

FLAVORS:
Use of Vitamins, Drugs, Flavor, Amino Acids, Minerals, Enzymes Discussed ....July 22—p 56

FREIGHT RATES:
Another Railroad Cuts Rates on Southern Cargoes ....July 15—p 1
Feed Trade Adopts Wait and See Attitude on Rail Rate Cuts ....July 22—p 1
Georgia Feed Assn. Convention ....July 29—p 10
Proposed Changes in Rail Rates Bring Opposition ....July 29—p 1
Rail Rates Cut on Grain Haul into S. E. ....July 8—p 1
Says Rate Revision on Eastern Rails Not Likely by Harvest ....July 15—p 4
Some Consider Rate Changes as Boost for Memphis Trade ....July 29—p 8
Third S. E. Railroad Cuts Grain Rates ....July 29—p 8
Vermont Congressman Asks Lower Rail Rates on Shipments of Corn ....July 8—p 7

GOVERNMENT AID:
Advocates Exchange of Government Grain for Poultry Products ....July 8—p 1
CCC Grain Held for Emergency Use ....July 8—p 1
Counties Have Drouth Designation ....July 29—p 6
Capital Comment ....July 15—p 7
Grain Available for Drouth Aid ....July 1—p 4
USDA Acts to Ease Drouth Distress ....July 8—p 8

GRAIN BANKING:
Grain Bank Accounting, Record Keeping Plan ....July 15—p 48
Grain Bank Plan Helps Custom Mill Owner Give Better Service ....July 1—p 58

HATCHERY INDUSTRY:
Hatcheries Become Fewer But Larger ....July 29—p 14

HORMONES:
Dairy Heifer Responses to Stilbestrol Studied ....July 22—p 45
Putting Research to Work ....July 1—p 38

INSECTICIDES:
California Report on Cattle Grub Research ....July 8—p 37

INTEGRATION & CONTRACT FARMING:
Broiler Situation ....July 29—p 7
Delmarva Contractor Drops Guarantees of Profit to Growers ....July 29—p 4
Delmarva Feed Men Talking of Changing Broiler Pay System ....July 22—p 7
Economists See Integration Moving Slowing in N. J. Poultry Industry ....July 1—p 22
Georgia Feed Assn. Convention ....July 29—p 10
High Degree of Integration Noted ....July 22—p 17
Midwest Financing, Contracting Trends Defined ....July 1—p 1
Observer Tells Why It Isn't Easy to Cut Broiler Output ....July 29—p 6
Oregon Poultry & Hatchery Federation Convention ....July 1—p 14
State Official Raps Industry Promotion of Poultry Projects ....July 1—p 7
Ten Mills, Three Hatcheries Sell Nearly 90% of Delmarva Broilers ....July 22—p 4
Tyson Firm to Start Commercial Egg Unit ....July 29—p 6
Western Poultry Congress ....July 1—p 1; July 8—p 6

LEGISLATION:
Committees Complete Farm Bill Action ....July 22—p 1
Farm Bill Heads for Conference Group ....July 29—p 1
Senate Unit Acts on Farm Bill; Grain, Marketing, Co-op Provisions Explained ....July 15—p 1

LIGNIN EXTRACT:
Researcher Reports Feeding Results With Lignin Extract as Pellet Binder ....July 15—p 10

LINEAR PROGRAMMING:
Studies of Least Cost Rations Containing Cottonseed Meal as Affected by Lysine Supplementation ....July 1—p 74

LIVESTOCK INDUSTRY:
Colorado Workshop Suggests Guideposts for Cattle Industry ....July 15—p 1
Feed Company Helps Get Feedlot Going in Eastern Oklahoma ....July 29—p 44
Patterns of Regional and National Growth in Livestock Production ....July 8—p 18

LIVESTOCK NUMBERS:
Bank Says Next Year May Be Better for Hogs Than Expected ....July 1—p 1
Cattle on Feed 2% Over Year Ago ....July 22—p 1
1961 Calf Numbers Expected to Exceed 1960 Crop by 1% ....July 29—p 67
Up or Down ....July 22—p 88

MANAGEMENT—BUSINESS:
Central Soya Head Sees Management as Key to Growth ....July 15—p 66
Determine Your Feed Sales Potential, Then Get Into Details of Mill Planning ....July 1—p 50
Elevator Mill Managers Look at 1966 ....July 8—p 1
Elevators Need More Diversification ....July 22—p 76
Farm Contacts Play Vital Role in Feed Dealer's Success ....July 15—p 88
Farm Survey Can Provide Data on Sales Potential ....July 1—p 51
Feed Plant Feasibility Workshop ....July 8—p 64
Grain Bank Accounting, Record Keeping Plan ....July 15—p 48
Labor, Capital Requirements for Model Pelleting Unit Shown by USDA Research ....July 1—p 18
Minimum Wage Law Application to Feed Firms Cited ....July 1—p 33
Past and Future Patterns of Regional and National Growth in Livestock Production ....July 8—p 18

MANAGEMENT & LIVESTOCK—POULTRY:
American Poultry & Hatchery Federation ....July 22—p 8
Alabama Poultry Industries Assn. Convention ....July 8—p 7
Arizona Studies Space Needed by Layers ....July 22—p 52
Colony Cage House Results Outlined ....July 29—p 34
Compare Holstein Steers in Beef Tests ....July 22—p 89
Effects of Temperature on Layers Told ....July 29—p 57
First Results in Miss. State Study of Layer Floor Space ....July 29—p 24
Floor Birds Increase Rate of Lay in Test ....July 15—p 95
Information on Water Consumption Given ....July 22—p 44
Least Cost Methods of Beating the Heat in Broiler Houses ....July 1—p 32
Livestock Day ....July 22—p 54
New Coccidia Strain, Breast Blisters Discussed ....July 22—p 48
Oregon Poultry & Hatchery Federation Convention ....July 1—p 14
Pigs Benefit From Restricted Space ....July 22—p 74
Research Favors Environment Control ....July 29—p 52
Stahmanns of New Mexico Hatch, Feed and Process 300,000 Geese Annually ....July 22—p 62
Supplementary Heat Units Affect Pig's Growth Rate ....July 22—p 86
Western Poultry Congress ....July 15—p 54
What About SPF Swine and the Feed Industry? ....July 8—p 26

MARKETING:
Alabama Poultry Industries Assn. Convention ....July 8—p 7
Calls for First Hand Representation of Eggs Produced in Midwest ....July 22—p 1
New Chicken Uses Featured at Festival ....July 1—p 6
New Egg Marketing System Developed in S. D. County ....July 22—p 90
Northeastern Poultry Producers Council ....July 29—p 1
Oregon Poultry & Hatchery Federation Convention ....July 1—p 14
Pennsylvania Poultry Federation Annual Convention ....July 15—p 7
Poultry & Egg National Board Convention ....July 1—p 60
Small Egg Producer Needs Local Market to Stay in Business ....July 29—p 52

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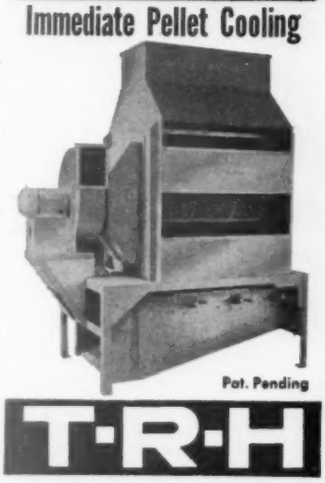

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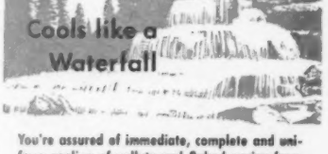

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MERCHANDISING:
Farm Contacts Play Vital Role in Feed Dealer's Success...July 15—p 88
Feed Man Promotes Feed on Basis of What It Will Accomplish ...July 29—p 26
Keeping Customer Informed ...July 15—p 18
Ohio Firm Meets Challenge of On-the-Farm Grinding, Mixing ...July 8—p 22

MICROSCOPY:
American Association of Feed Microscopists Convention..July 22—p 32

MILO:
California Feeders Day Conference ...July 29—p 1

MINERALS:
Abstracts From Abroad ...July 8—p 34
Copper Can't Replace Zinc in Swine Rations ...July 29—p 67
Georgia Feed Assn. Convention ...July 29—p 10
Iron Treatment of Pig Anemia ...July 15—p 84
Magnesium for Laying Pullets ...July 15—p 40
New Coccidia Strain, Breast Blisters Discussed ...July 22—p 48
Use of Vitamins, Drugs, Flavor, Amino Acids, Minerals, Enzymes Discussed ...July 22—p 56

MOBILE MILLING:
Illinois Dealer Has Well Organized Mobile Milling Operation ...July 15—p 32

MOLASSES:
USDA-Publicker Deal Follows on Heels of Molasses Landing ...July 1—p 4

NITROFURANS:
Furazolidone Test on Breeders Reported ...July 15—p 11

PELLETING:
Researcher Reports Feeding Results With Lignin Extract as Pellet Binder ...July 15—p 18

PIGEON FEED:
Pelleting Is One of Latest Wrinkles in Manufacturing Feeds for Pigeons ...July 15—p 52

POULTRY FEEDING:
Kansas State Broiler Is 4 lb. in 8 Weeks ...July 29—p 16
Putting Research to Work ...July 15—p 44
Special Feed Formula for Beginning Layers Predicted at Egg Event ...July 29—p 33

POULTRY INDUSTRY:
Broiler Situation ...July 29—p 7
Effects of Low Prices, Broiler Trends Outlined ...July 15—p 1
Interregional Egg Markets Compared ...July 1—p 64
Mississippi Ships Eggs Out of State ...July 15—p 22
Note Little Cutback in Mississippi Area, But Some Quitting ...July 1—p 11
Selective Placing, Cautious Planning Noted in Broilers...July 1—p 45
Shows Feed Cost Differences Between N.E., South...July 15—p 58
Some of Mississippi Broiler Growing Shifting to Egg Output ...July 29—p 68
USDA Official Asks Turkey Expansion in An Orderly Way ...July 1—p 79

POULTRY NUMBERS:
The Broiler Situation ...July 29—p 7
July 1 Layer Count Same as Year Earlier ...July 15—p 8
23% Cut in Egg-Type Hatch Trims 1960-61 Difference to 5% ...July 22—p 6

PRICES:
Bank Says Next Year May Be Better for Hogs Than Expected ...July 1—p 1
Bean Meal Market Stages Recovery ...July 29—p 1
Bearish Reaction to USDA Sorghum Selling Noted ...July 29—p 1
Capital Comment ...July 15—p 7
Effects of Low Prices, Broiler Trends Outlined ...July 15—p 1
Shows Feed Cost Difference Between N.E., South ...July 15—p 58
Up or Down ...July 15—p 55

PRICE SUPPORTS:
Capital Comment ...July 1—p 8; July 22—p 6
Government Buying of Turkeys Seen ...July 29—p 4
Government Suspends Egg Buying Program ...July 15—p 1
1961 Soybean Crop Support Rates Set ...July 29—p 70
USDA Announces 1961 Corn Support Rates ...July 1—p 8
USDA Plans Review on Allowing Coop Soybean Supports ...July 29—p 8

PRODUCTION & MILL OPERATIONS:
American Association of Feed Microscopists ...July 22—p 32
Grain Bank Plan Helps Custom Mill Owner Give Better Service ...July 1—p 58
Labor, Capital Requirements for Model Pelleting Unit..July 1—p 18
Service and Operational Ideas That Work for Feed Company in Pennsylvania ...July 29—p 18
USDA Makes Study of Custom Grinding, Mixing for Farmers ...July 15—p 80
When New Mill Was Erected, Wisconsin Firm Made Good Use of Its Old Machinery ...July 22—p 18

PROTEIN:
Use of Vitamins, Drugs, Flavor, Amino Acids, Minerals, Enzymes Discussed ...July 22—p 56

PROTEIN BLOCKS:
New Protein Block Unit Announced ...July 15—p 104

QUALITY CONTROL:
Feed Sampling Procedure Outlined ...July 22—p 45

QUALITY COSTS:
Automatic Protein Checking Announced ...July 15—p 38

REGULATORY:
Agribusiness Needs to Tell Public What It's Doing and Why ...July 22—p 87
All Feeds Subject to FDA Regulation ...July 1—p 7
Colorado Legislates Modernized Feed Law ...July 15—p 17
FDA Amends Order Covering Hygromycin ...July 1—p 7
FTC Announces Consent Order ...July 15—p 37
Feed Control Comment ...July 8—p 44; July 22—p 24
Food Additive Order for Nystatin Issued ...July 15—p 4
Industry Pushes for Delaney Clause Change ...July 1—p 1
Oregon Approves New Feed Law ...July 15—p 97
Rules Amended on Absorption of Water by Poultry...July 22—p 7
Rules for Voluntary Grading, Inspection of Poultry Amended ...July 29—p 6
Tylosin Cleared for Drinking Water Use ...July 29—p 6

RESEARCH:
Feed Mill Presented to U. of California ...July 15—p 4
North Dakota Gets New Research Unit ...July 29—p 71

SERVICE:
Farm Contacts Play Vital Role in Feed Dealer's Success...July 15—p 88
Feed Serviceman Specializes in Servicing Broiler Flocks..July 1—p 34

SOYBEANS:
11% Soybean Acreage Increase Estimated ...July 1—p 4
Up or Down ...July 15—p 55

SWINE FEEDING:
Livestock Day ...July 22—p 54

TAXES:
And the Feud Goes On ...July 29—p 13
Georgia Retaliates; Florida Removes Fee for Inspection..July 15—p 6

TRANSPORTATION:
Emergency Road in Use at Dam ...July 29—p 14
Rail Rates Cut on Grain Hauls Into S. E. ...July 8—p 1
Special Barge to Lift Grain at Wheeler Dam...July 1—p 7
Tennessee River Grain Traffic Leaps ...July 1—p 7
Variety of Emergency Measures Used at Dam...July 22—p 25

TRANQUILIZERS:
Tranquilizer for Oral Administration Cleared ...July 8—p 7

TREATED GRAIN:
Letters to the Editor ...July 1—p 10

UREA:
Putting Research to Work ...July 1—p 38

VACCINATION:
Appraisal of Coccidiosis Vaccination for Replacement...July 22—p 26
Epidemic Tremor Vaccine Developed ...July 22—p 4
Ewing to Distribute New Tissue Culture Newcastle Vaccine ...July 1—p 11

VITAMINS:
Abstracts From Abroad ...July 8—p 34
California Feeders Day ...July 29—p 1
Distribution Set for Vitamin A Standard ...July 15—p 82
List Vitamin A Recommendations ...July 15—p 36
Putting Research to Work ...July 22—p 64
Recent Vitamin A Studies With Beef Cattle ...July 29—p 50
Use of Vitamins, Drugs, Flavor, Amino Acids, Minerals, Enzymes Discussed ...July 22—p 56

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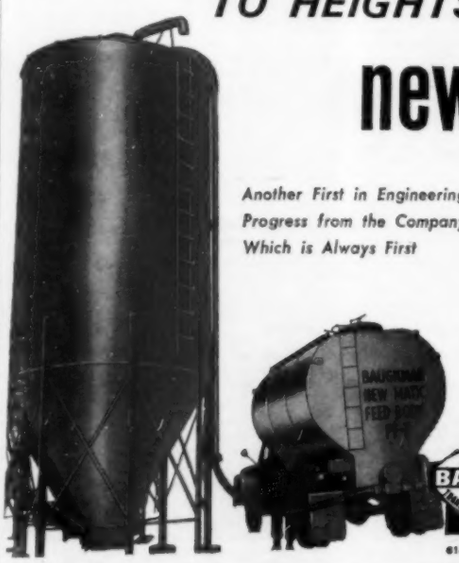

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A Marketing Case History

How Shelley Sells Shell

By Fred Gaines

EDITOR'S NOTE: *The planning and execution of the Shellbuilder Co.'s advertising-marketing program is described in the accompanying article by the company's sales manager. The series of advertisements featuring a series of pretty girls named Shelley results from more than aiming a camera at a photogenic subject, Mr. Gaines points out. This description of the company's marketing objectives and how it carries them out is presented for the particular interest of sales and advertising personnel in the feed industry.*

Many people in the feed business, in advertising and in the feed publication field have asked us about our Shelley-Shellbuilder advertising and merchandising program. This program, which has been one of the most important factors in the success of our business, resulted from a decision our company made several years ago as to where we were going in our industry.

Were we going to stay in the same place, or progress in sales, service, distribution and profits? That decision was not hard to make, because we, as do most companies, desire to get ahead, sell more and make more money. The question was how we should do this.

Two avenues were open for merchandising. One was an intensive direct sales program, backed with limited advertising in feed publications. This plan would depend primarily on the efforts of salesmen to improve distribution in territories where we were established and to obtain distribution in other areas. In this plan, advertising would simply familiarize feed dealers with our company name and product.

The other avenue was a strong, carefully planned advertising program, to create an image of our company and product, without the use of a large personal sales force. This would be a sustained campaign that would attract the continuing attention of a large audience.

Difficult Decision

This choice was hard to make. In most organizations, merchandising and selling depend primarily upon the salesman in the field, with advertising and other promotional material being used only as a help for the salesman. This type of program is the tried-and-true selling program commonly used for most products, particularly in the feed industry. The main drawback to such a program is its cost. Oyster shell is a low-profit, high-volume product and, unless you have a tremendous volume, the sales cost per unit is almost prohibitive. Often the distributors, jobbers and larger accounts feel that the salesman in the field is just another competitor if he is selling a brand that has not had wide acceptance in that trade area.

Another problem in selling directly through company salesmen is the acute shortage of trained, productive salesmen who can be counted on to produce a specific sales volume or to gain distribution of a product in a specific new area. Quite often a salesman can be hired who is exactly what you want in every way, yet when you look back on results of his work at the end of a six-month period or a year, they have been less than the cost of the salesman. Even with salesmen in the field, a certain amount of advertising and promotional work is necessary to produce an adequate sales volume.

Considering all of these factors, we decided that the best program for Shellbuilder Co. was a strong advertising program, carefully planned to create an image for the company and product, using a campaign that would attract the continuing attention of a large audience. We would not use a large outside sales force.

Reasons for Choice

The first reason for using this type of program was that it permitted budgeting the cost factor of selling closely over the volume of sales that we were then doing. Merchandising costs could be projected upward as sales increased or changed in relation to the overall sales picture. This gives a great degree of flexibility in the merchandising and advertising program, both cost-wise and audience-wise.

The second reason for choosing this program was that we already had a good base of advertising. By using the existing advertising budget as a foundation, funds added to this budget could enlarge and greatly enhance the total advertising program at a lower additional cost than if we were starting from scratch. It was also felt that our brand was not as well known in some areas as other brands, and that a large direct sales program would not produce results without dealer acceptance of our brand and company. Of course, this is not to say that a direct personal selling program is not necessary with advertising. It is just that a good merchandising and advertising program makes the personal selling program needed less overwhelming and costly.

These ideas, of course, had already been applied to other products outside the feed industry and had worked with varying degrees of success. However, most of the programs that had been successful outside the feed industry had depended to a great degree on building consumer demand, and large amounts of money had been spent on consumer advertising. Consumer advertising is highly expensive. Without distribution and sales in large areas, we felt that all our advertising funds should be used in the feed trade magazines at first, with a smaller amount allocated for direct mail. Consumer magazine advertising could follow after distribution was achieved.

Action Started

After making the decision to use the intensive advertising program, we were ready to start our course of action. First the advertising program had to be planned. This planning included choosing publications to be used, deciding when to advertise the heaviest, what time of year to start a new program and choosing the time of year for sending direct mail pieces. The geographical areas in which we were primarily interested were determined. These areas were selected on the basis of our ability to ship into that area economically and the competitive situation in the area. Then magazines that would cover these

areas most completely were selected.

The second part of the planning had to do with our production.

As we had high hopes that the new program we were initiating would increase sales, we decided to go ahead with plans for plant rebuilding, along with some production increases. These plans could then be put into effect immediately if the merchandising program progressed satisfactorily and brought in additional business.

After selecting the types of magazines that we thought best, we had to determine what type of advertising we should do. The next questions were whether to use drawings or photography in color or black and white, how much copy should be used, and how strongly the identity of the company and product should be emphasized.

We decided to use photographs of a live model rather than drawings. From the experience of a number of years in calling on the feed trade throughout the country, it was very apparent that the feed business was a masculine business. Most feed manufacturing companies, stores, elevators and hatcheries are run by rugged, outdoor men. Therefore, in designing a campaign that would have the most appeal to the widest audience of this strong, masculine type, we decided to use either (1) an artful, semisophisticated advertising program presenting a bit of feminine beauty, along with a relatively small amount of copy, or (2) a campaign based on the appeal of sports, nature or adventure. This second approach has been used most effectively in advertisements such as the Canadian Club whiskey series and some of the cigarette companies' advertising. However, such advertising was prohibitively costly for us, and it was not feasible to get the type of pictures and locations that we needed.

Pulchritude Approach

Therefore, we chose the program with a bit of feminine pulchritude. Our advertising problem was by no means solved at this point. There are many beautiful girls in the advertising business. However, even the prettiest sometimes are not photogenic. We felt that the best model would have many qualities, some of which were a provocative beauty, a large amount of allure and a wholesome freshness. She should also be highly photogenic. These qualities were hard to find. After an extensive search we found our first model. We were then ready to produce our ads.

Each campaign or series of ads is based on a yearly schedule. We start a new advertising program each year in October. We determined that Oct. 1 was the most effective starting date for our new advertising because oyster-shell sales and customer interest are relatively slow in the summer. Around Oct. 1 they pick up momentum as customers and prospects become interested in fall and winter shell supplies.

Because of the limited time we had for shooting pictures of our model, and the high cost of both model and photographer, we tried to photograph all the pictures for a year's campaign in two or three days. Therefore, much preparation of ad copy, ideas and scheduling had to be done considerably earlier. We have our campaign planned for the whole year by the end of June. Therefore, intensive planning started in April. In early to middle July the photography was done based on ideas and copy that had already been worked up.

Planned pictures were tailored to meet ad ideas and copy.

However, we always take several extra pictures on the spur of the moment during photographic sessions, or we give the photographer a certain amount of leeway to make shots and poses that interest him and which he thinks might make a good ad. In most cases, these "spot" pictures which were not planned have turned out well and have resulted in some of our better ads. Naturally this result did not always occur.

We usually take from 20 to 25 different poses for each ad. Thus with our program of using about 15 to 20 advertising photographs each year, we will have a total of 200 to 300

NUTRENA OPENS NEW MILL—Nutrena Mills, Inc., Minneapolis, recently opened this new feed mill at Wilson, N.C. The facility has a 100-ton daily capacity. (A report on the opening of the automated plant appeared in Feedstuffs, Aug. 26.)

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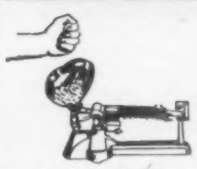

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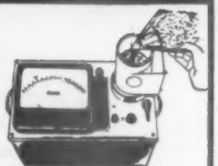
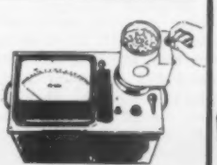
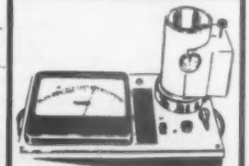


2. Pour into 500-RC funnel



3. Note temperature and release sample into test cell



4. Check meter and find moisture content on chart

New Model 500-RC makes 300 to 400 tests each working day!

When the trucks start rolling in, you need accurate, reliable tests *fast*. And that's the way you get 'em . . . *in a minute or less* . . . with the STEINLITE 500-RC. Its larger 250 gram sample gives you a truer test of the entire load, is less critical to weigh out. Quick, four-step operation, simplified charts, and "memory refresher" instruction panel all help save time, save mistakes, save money.

Other points to compare: 4% to 36% moisture range; calibrated to U.S.D.A. standards; special dustproof, anti-static construction; free loaner service; full year's guarantee.

Trade up! Your 500-RC will pay for itself over and over in time and accuracy savings! Write for complete information and liberal trade-in allowance on your present tester.

SEEDBURO EQUIPMENT COMPANY
DEPT. FS-9, 618 W. JACKSON BLVD. • CHICAGO 6, ILLINOIS

Dry Dog Food News

REVOLUTION!

Newest Dry Dog Food Ingredient in 15 Years

New Expanded Ingredient Gives Palatability to Meal-type Formulas

MONMOUTH, ILL. — WELLS pioneers again! This time, it's PALABITS — a new, expanded process ingredient for meal-type dog foods. Use PALABITS to make up 10 to 25% of your present meal formula. The advantage: *more sales-making palatability.* This revolutionary product is a homogeneous, nutritious blend of corn, soybean meal, meat meal, fish meal and animal fat. If you use 400 lbs. of PALABITS per ton, you can replace 240 lbs. of low-protein ingredients like cookie meal, bread crumbs, cone meal or — in some cases — ground raw grains or wheat bran. You also replace 160 lbs. of powdery solvent soybean meal.

Reduce Other High-Cost Protein Ingredients

PALABITS contains 22% minimum protein. That means you use *less* of other protein ingredients. The total animal protein in your formula also rises with the additional amounts of meat and fish in PALABITS.

MONM again! expan type up 1 form mak proc ble fish lbs pl li n

Expansion Process TEXTURE *Boosts Palatability and Sales Appeal*

Expanded PALABITS is free from fines. No dust to annoy dogs. No "powdery" look to detract from sales. PALABITS in your formula will "fluff-up" your dog food and give it bulk and attractive appearance.

FREE — WORKING SAMPLES

Make a trial test of PALABITS *for yourself. Just write — and we'll send you specifications and a working sample to prove the value of this revolutionary new ingredient.*

SOURCE OF

RALPH WELLS & CO.

MONMOUTH, ILLINOIS

THE BEST — FOR MAN'S BEST FRIEND

★ Buy and Sell Through WANT ADS ★

FOR LOW-COST GRAIN HANDLING

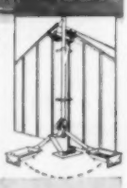
Sudenga SYSTEMS

Permits Higher Side Wall Bldgs.
Buildings Closer Together
Ideal For Bulk Feed Plants

You can build higher grain storage buildings, put more of them on the same ground because Sudenga Grain Moving Auger Systems feed from the end with only one set-up. Auger running full length under the peak, ends grain distribution problems. Spouts or Drag Augers lead the grain in any direction to fill Building evenly. 8" U Trough, with up to 3000 bu. per hr. capacity, is standard but 9" and 10" U Troughs available.

Ideal for Steel Rigid Frame, A Truss, Wood Pole Type or any type building.

Installation for filling, direct from Elevator Bin into Storage Building.



Vertical Auger with Truck Unloading Hopper, for tight installations. Available in 6", 7", 8", 9", 10" Dia. Up to 3000 Bu. per Hr.

Typical End Fill using Portable Augers or Elevators. Many use Center Fill with Tube from Elevator Head House.

Sudenga INDUSTRIES Since 1888

Write for Literature

Dept. F GEORGE, IOWA

different poses. Each picture is carefully checked for technical perfection and for best application to copy we already have. (In some cases we find such variations in the same pose that we can make up additional copy to cover this variation, thus coming up with two ads from one photograph. A good example of this was our ad of Shelley with a basket of eggs, which was run on two different occasions, but with different copy.)

Ads Scheduled

We then decide which ads would be most effective at the beginning of the campaign, and carefully plan the scheduling of each ad. As our reproduction plates are standardized for the different sizes of ads, we have a great degree of flexibility and can interchange ads without difficulty. Therefore we do not have to stick to a rigid schedule. Photographs for direct mail pieces are made also at the time we make photographs for ads. In some cases the photographs used in trade-magazine advertising can be used on a direct-mail piece. Reprints of ads that we consider particularly appealing and that have the widest audience acceptance are ordered. These are mailed out to anyone desiring them, and are also used at conventions and meetings. We also have a panel of pictures we use at conventions and meetings showing what we call "The Best of Shelley" during the year. Some of these pictures have been in ads; others have not.

The story we try to put across on a continuing basis to our audience is designed to be interesting and have a certain amount of humor, with good common sense intertwined, to make interesting reading and to help the audience remember the quality and selling points of Shellbuilder oyster shell. The copy on all ads is kept to a minimum with one story or idea being put forward in each ad. Stereotyped ads or ads felt to be rehashes of advertising from other companies are carefully avoided. Originality is stressed in every aspect of the copy and illustration. After a period of time we found that the type of advertising we were doing not only developed into fun for both ourselves and the advertising agency, but produced also gratifying audience reactions, gained us brand and company recognition, and a steady flow of new customers.

Inquiry Follow-Up

Now that we have described our advertising campaign, I would like to tie in our merchandising and sales results with the advertising. Because of the wide readership we have gained in Shelley advertisements in feed trade journals, we have had a phenomenally high percentage of returns from prospects on our direct-mail pieces. These inquiries have been handled very carefully, usually by phone call immediately after the inquiry came in. Then one of our distributors contacted the prospective customer immediately. Continuous follow-ups were made on inquiries until the prospect became a customer, or we were satisfied that the inquirer was not a true prospect.

One of the main benefits we received from direct-mail advertising was that we acquired many new dealers in areas where we formerly had no representation. Another benefit was that our personal direct selling and our distributors' selling became more effective because prospects were more familiar with our brand name, company and product, and the percentage of sales to calls was high.

What Next?

A continuing problem we have is what shall we do next? We feel that our program thus far has been very successful and has attracted a continuing wide audience. However, every time we design a new program, we are challenged to continue to attract this audience and not lose its interest.

Another problem is that occasionally, for reasons beyond our control, we have to select a new model to carry on the program. One example of this is that one of our models was so successful and photogenic that she attracted the attention of a large advertising agency in New York City. For quite some time now she has been doing ads appearing in national magazines such as Life, Look and Sports Illustrated. Therefore, because we have to acquire a new model from time to time, we have not built up any one particular model so that continuity of face and figure would not be broken by using another girl. Also, we have not completely subjugated all of our merchandising and selling to the Shelley campaign because at some time in the future, ideas, interest and audience appeal may be such that we will want to change to a new type of campaign. We believe that we have flexibility enough that we could change to another type of campaign if it were as good as our Shelley campaign.

Yes, Columbia Quarry gives you one day service on bulk orders . . . and in covered hopper cars too! CQ has the products . . . the equipment . . . the service! For complete information on Columbia Quarry's original Dust-Free, Easy-Mixing, Free-Flowing Calcium Products write . . .

COLUMBIA QUARRY COMPANY
1007 Washington Ave., St. Louis 1, Mo.

Buy and Sell through WANT ADS —in— FEEDSTUFFS

DOUBLE TREAT—"Miss Eggtober," Karen Olsen, puts a lot of sparkle in the eyes of Walt Rearick as she perches on his knee and joins him in a hard-cooked egg "Go-Power" snack. Miss Olsen and Mr. Rearick are college juniors and are anxious to remind the nation's 182 million consumers that October is Eggtober. The month-long campaign to stimulate greater use of eggs during fall months is sponsored by the Poultry & Egg National Board, Chicago, and this year's theme is "Eggs for Go-Power . . . At Home and Away." PENB has supplied copies of this photo, for use in newspapers and on TV, to state Eggtober chairmen throughout the nation.

St. Louis Milling, Grain Club Holds Outing

ST. LOUIS—The St. Louis Milling & Grain Club held its annual midsummer outing at Sunset Country Club in St. Louis County recently with 158 members and guests in attendance. Included in this group was a considerable number of out-of-town representatives of the grain, flour, feed and seed trades. This was the largest turnout in recent years.

The afternoon was devoted to a golf tournament, which attracted 58 golfers, the largest participation in some time. An unusual feature of the golf tournament was a hole-in-one score on the 190 yd. 15th hole, by David L. Colby, vice president of Boatmen's National Bank. This event was recognized by the awarding of a special prize.

Loy W. Ledbetter, Jr., vice president of the club, introduced and welcomed all of the guests at the dinner following the afternoon's activities, pointing out that this area-wide meeting is one of the efforts of the local agricultural industry to expand its relations with the trade territory.

Six applicants were elected to membership in the club. They were: Page Darraugh of Checkerboard Grain Co.; W. J. Sullivan, Ralston Purina Co.; Ross Luitjens, Continental Grain Co.; Charles Kulish, The Pillsbury Co., and N. P. Uffmann and J. R. Devlin, both of Bemis Bro. Bag Co. The club membership now stands at 192.

All those in attendance participated in the drawing for 25 attendance prizes furnished by the club. In addition, six prizes were awarded to the winners of the afternoon's golf tournament.

The next function of the St. Louis Milling & Grain Club will be another golf outing, Sept. 19, at Lockhaven Country Club, Alton, Ill., to be followed later in the year by the annual dinner dance, which will be held Nov. 11, at Greenbrier Country Club.

SOUTH AFRICAN VISITOR—A recent foreign visitor at the Honegger research farms in Forrest, Ill., was Frank Fouche, a past member of the Union of South African Parliament, and a retired cattle rancher. Mr. Fouche is shown here with his wife, Anne; daughter, Mrs. Bill Walker, and family of Champaign, Ill. Before his retirement, Mr. Fouche operated a 3,000-acre ranch in South Africa, where cattle are grazed rather than grain fed. He is presently operating a 1,000-tree citrus fruit farm.

Quality-Minded
BROILER GROWERS
prefer PILCH

Pilch's POULTRY BREEDING FARMS, INC.
General Offices and Research
HAZARDVILLE, CONNECTICUT
Distribution Centers
Smithfield, N. C. • Talladega, Ala.
Calistoga, Calif.

THE WORLD'S LEADING MANUFACTURER OF HORIZONTAL MIXING EQUIPMENT

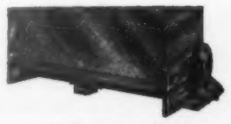
TOP PERFORMANCE AND INCREASED PROFITS ARE YOURS FROM THE SPECIALISTS IN THE MANUFACTURE OF QUALITY HORIZONTAL MIXING EQUIPMENT. There's a Marion unit for every and any mixing job including 31 standard models and special units built upon request.

INTRODUCES THE *Marion* SURGE BIN

FOR CONTINUOUS MIXING OPERATIONS
Designed for use in conjunction with the Marion Mixer, the Marion Surge Bin provides greater mixing capacity for the amount of space required.

SMALL BATCH MIXER

LABORATORY MIXER


INDUSTRIAL MIXER

TWIN MIXER

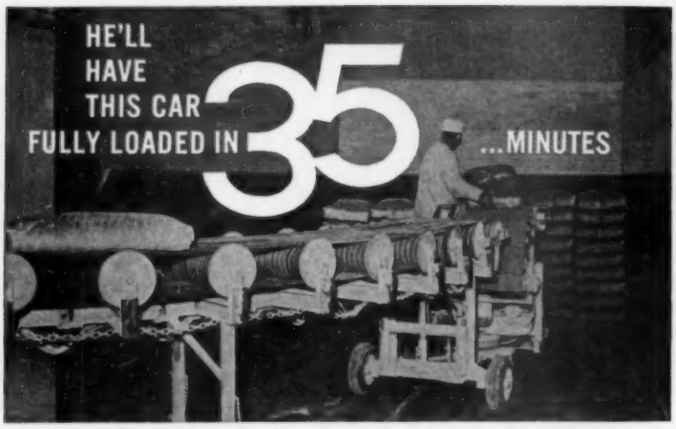
The Marion Mixer is the Best answer to Any mixing problem. You need only one mixer in your plant or mill to satisfy all your mixing and blending requirements. The Marion Mixer handles the mixing of dry feeds, and blending of molasses, fish solubles, animal fats and other liquid additives, with the same ease and dependability. THE MARION MIXER WILL MIX GROUND GRAINS, HAY & ROUGHAGES, MINERALS, CORN COBS, ETC., WITH MOLASSES AND WILL MIX CRIMPED OR ROLLED GRAINS WITH MOLASSES without destroying the flake. The Marion Mixer will also mix fertilizers and agricultural chemicals.

FREE! This New Complete Catalog

The Marion Mixer Takes the "Doubt" Out of THE MIX. If the formula is right . . . the mix is right . . . every batch. The exclusively designed mixing and blending action assures a uniform mix every time. The mixing blade faces follow the curve of the cylinder shell with the closest tolerance possible so that not even the tiniest morsel of your mix escapes the sweep of the blades.

RAPIDS MACHINERY CO.
887 11th St., Marion, Iowa

RAPIDS MACHINERY CO.
887 11th St., Marion, Iowa
Please send me without obligation, the new descriptive catalog and prices.
☐ MOLASSES MIXER CAPACITY.....
☐ DRY MIXER CAPACITY.....
☐ FERTILIZER CAPACITY.....
NAME .....
FIRM .....
ADDRESS .....
CITY ..... STATE .....



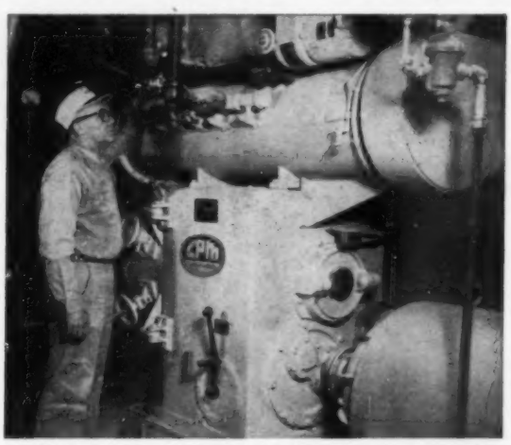
...without help, using a
POWER-CURVE Loader

Bag loading costs of eight cents a ton are not uncommon in plants using Power-Curve equipment. One man loads and stacks direct from the packer with no need to lift a single bag. Loads can be palletized or stacked in any pattern, also put into warehouse storage.

There are Power-Curve installations near you. Let us show you how your plant can benefit from a custom engineered Power-Curve loading operation.

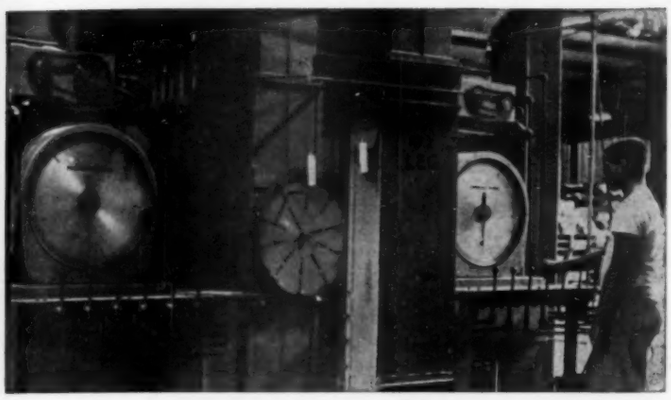
Literature and engineering details sent on request.

POWER-CURVE
CONVEYOR COMPANY
2185 SOUTH JASON ST., DENVER 23, COLORADO



CPM Dual-Speed Pellet Mill is like having two mills in one. Great versatility and great strength are combined to give you the best die speed for all your pelleting jobs—no matter how tough. 100 or 125 HP, 1800 RPM motor; wide range of die speed combinations available. An exceptional value on the basis of stamina alone. Call your man from CPM, today.

CALIFORNIA PELLET MILL COMPANY
1800 Folsom Street, San Francisco 3, California
1114 E. Wabash Avenue, Crawfordsville, Indiana
101 East 15th Avenue, North Kansas City 16, Missouri
Sales and Service in Principal Cities



Manually-operated levers arranged in front of two scale dials discharge selected ingredients into scale hoppers as directed by formula charts. Augers which feed ingredients into hopper scales are powered by fifteen 3-h.p. hydraulic motors (Char-Lynn).

NEW PLANT

(Continued from page 19)

ting legs, serves both the truck and car pits and is big enough to move a 20-ton carload into the mill in about 40 minutes.

The truck side has no hoist because, as Mr. Severson explained, most of the trucks which bring ingredients to the mill have their own hydraulic lifts. A power shovel is used to unload box cars and the occasional truck that has no bed hoist. Hopper rail cars are specified whenever possible to save unloading time and labor.

GRINDING AND STORAGE—The incoming auger, which passes over a magnet to remove tramp metal from ingredients, feeds two receiving legs (No. 1 and No. 2) which lift ingredients into overhead storage tanks which range in capacity from 20 to 70 tons.

Four of these receiving tanks are reserved for ingredients that need grinding before mixing. At present, shelled corn comprises the bulk of the material ground by the mill's 50 h.p. Jacobson hammermill. In the future, however, Mr. Severson noted, the Kent mill may grind alfalfa pellets and fish scraps, instead of receiving reground pellets and fish meal, to save on ingredient costs.

From the hammermill, ground materials are re-legged into the ingredient storage tanks which supply two Fairbanks-Morse hopper scales.

PROPORTIONING AND MIXING—The plant's two Fairbanks-Morse 5,000-lb.-capacity hopper scales are charged with ingredients by augers powered by fifteen 3-h.p. hydraulic motors (Char-Lynn).

Manually-operated levers arranged in front of the two scale dials discharge selected ingredients into the scale hoppers as directed by formula charts. Cottonseed meal, ground corn, alfalfa meal, linseed meal, distillers grain and solubles and middlings are handled by one scale hopper; soybean meal, meat and bone meal, salt, fish meal, mono-phosphate, calcium carbonate and feeding oatmeal by the other.

Manually-operated bin selection wheels are used to turn distributor heads to desired positions. There are two 10-way distributors feeding into the ingredient bins.

Premixing

In the premix proportioning and blending area, 22 different micro-ingredients are stored in 100-lb. covered "tubs" arranged in a semi-circle around two Toledo scales—one for weighing most of the micro-ingredients and a gram scale for weighing the more concentrated micros—and a 1,000-lb. S. Howes ribbon-type horizontal mixer.

The micro-ingredients are hand weighed, then poured into the mixer with the premix carrier, "Solulac," brand of distillers dried grains and solubles manufactured by Kent's parent organization, Grain Processing Corp., Muscatine. The Solulac is weighed and proportioned for the premix in a Cardinal scale and hopper.

Mr. Severson explained that a batch of premix is prepared for each 2-ton batch of feed, the proportions of micro-ingredients and carrier depending upon the type of feed to be mixed.

After the micro-ingredients and the carrier are mixed in the horizontal mixer, a vibrating feeder charges a Cardinal hopper scale with a batch of premix. The premix batch is then released onto a belt conveyor and

Superior Stability of Hetrogen

Data accumulated during years of continuous study confirm the superior stability of Hetrogen K Premix. Hetrogen K Premix is available in a full range of potencies on stabilized calcite or soybean meal carriers. Stabilized corn meal or wheat middlings carriers* also available if desired.

Let us give you all the facts and research data about Hetrogen K

Open house program which dedicated new Kent plant at Waterloo was attended by 125 northeast Iowa Kent dealers and members of their families. Total attendance was near 1,000 persons.

emptied into the plant's main feed mixer, a 2-ton horizontal Marion.

The premix equipment is interlocked so that mixing of batches and recharging of the vibrating feeder can be automatically operated. The system is timed to automatically discharge a premix batch whenever a new batch of feed is about to be mixed in the 2-ton mixer.

Mixed batches of feed are legged upward and distributed in bins according to whether the feed is to be loaded out in bulk as is, bagged as is or pelleted as bulk or bagged feed.

BULK LOAD-OUT—There are nine 10-ton bins over a 50-ft. Fairbanks-Morse truck scale in the load-out area. After mixing, bulk finished feed is carried from a distributor to the load-out bins by a drag conveyor. In addition to the nine 10-ton bins, the Kent plant also utilizes about ten 1-ton steel tubs for holding small special bulk feed orders.

BAGGING—When bagging of feeds is desired, the feed is diverted from the overhead drag conveyor into a 7-ton holding bin over a Bemis automatic scale and bagging machine, one of the first to be used in the manufacture of finished feeds. Sacked feeds are palleted and stored in a warehouse. Seven hundred tons of filled sacks can be stored in this warehouse, of which the full width of one end is open to the manufacturing area. Allis-Chalmers fork lift trucks are used to move the palleted sacked feeds to the opposite end for loading into trucks.

PELLETING—A 10-ton mixed feed tank supplies two 100 h.p. California pellet mills.

Each of these pellet mills has a Wenger horizontal cooler. Twenty-five horsepower fans produce the air blast for cooling the pellets and for removing dust. The coolers, each 24 ft. long, feed to Davis shakers and on to California rollers, if crumbles are desired. The pellets or crumbles are conveyed by a leg (No. 4) into the overhead load-out bins or into the bagging bin.

A pellet fines return system carries the fines from the shakers by auger into a leg and on into a 2-ton overhead tank. Fines are discharged so that traces of them are continuously mixed with meal feeds before being repelleted.

July Testings of Heavy Breed Turkeys Drop

WASHINGTON — The number of heavy breed turkeys tested for pullorum disease during July, the first month of the 1961-62 turkey testing year, was smaller than the number tested in July, 1960, reports the U.S. Department of Agriculture.

Heavy white breed turkeys tested totaled 72,391, down 20% from the 90,401 tested in July, 1960. Testings of other heavy breeds (mostly broad breasted bronze) totaled 57,257, compared with 73,485 in July of last year —a decrease of 22%.

The number of light breed turkeys tested during July totaled 18,667, compared with 14,960 in July, 1960—an increase of 25%.

Also tested during July were 1,631,001 chickens for supplying broiler hatching eggs. This was a 22% increase from July, 1960. The cumulative total January through July was 13,756,359—up 18% from the same period in 1960.

The number of chickens tested in July for supplying eggs for egg-type chicks was about the same as a year earlier. The number tested totaled 325,662 compared with 325,767 in July, 1960. For the period January through July, testings totaled 4,056,275—up 14% from these months in 1960.

corn shelling methods have come a long way!

Bryant CORN SHELLERS

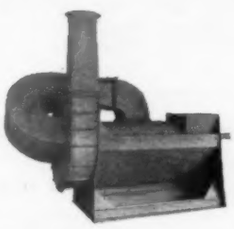
SHELL FASTER — INCREASE PROFITS

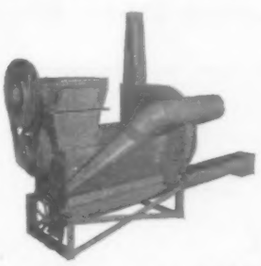
THE MOST COPIED CORN SHELLER ON THE MARKET!

Bryant's complete line of modern shellers offer a larger selection than ever. Capacities quoted are for machine-picked corn. On snapped full-shuck corn, capacity will be reduced about 50%.

No. 40 SHELLER

The champ of all cylinder type shellers. Shells up to 1800 bushels of shelled corn per hour. Crusher, screw, etc., available.



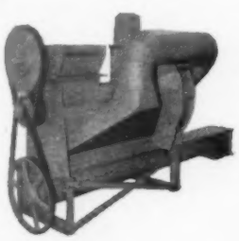


No. 12 SHELLER

Has full-length aspiration for superior cleaning of the shelled corn. Mounted Coarse Crusher, support stand and screw conveyor for shelled corn are optional. 150 to 250 bushels of shelled corn per hour.

No. 15 SHELLER

Shells 300 to 600 bushels of shelled corn per hour. Note full-length aspiration for thorough cleaning. Crusher, screw and support stand are optional.



No. 22 SHELLER

Has full-length aspiration. Crusher, screw, etc., are optional. 400 to 800 bushels of shelled corn per hour.

THERE'S A BRYANT CORN SHELLER TO FIT ANY SIZE OPERATION

A COMPLETE ENGINEERING AND LAYOUT SERVICE

for a single piece of equipment or a complete plant is offered by Bryant through their National Distributor Set-Up.

Bryant ENGINEERING COMPANY
1504 TENTH AVE.
PORT HURON, MICH.

50th ANNIVERSARY

"QUALITY—OUR MOST IMPORTANT PRODUCT FOR 50 YEARS"

K Premix* Confirmed!

Premix—the vitamin K supplement in which the *potency in the bag matches the potency on the tag.*

*Patents Pending

HETEROCHEMICAL CORPORATION
111 E. Hawthorne Ave., Valley Stream, L. I., N.Y.

Heterochemical Corporation
111 E. Hawthorne Ave., Valley Stream, N.Y.
☐ Yes, I want data on Hetrogen K.
☐ Send price list and name of nearest distributor.
Name
Firm
Address
City Zone
State

Feed Industry Urged to Support 4-H Movement

WASHINGTON—J. D. Sykes, vice president of the Ralston Purina Co., St. Louis, has urged the feed industry to continue its support of the 4-H club movement.

In a letter to key industry leaders, Mr. Sykes pointed to the important work of the National 4-H Club Foundation in "helping to establish leadership in our younger generation." He also said "it is with a real sense of urgency" that he is urging financial support for the foundation from the feed industry of the U.S.

Mr. Sykes is chairman of the feed industry campaign of the National 4-H Sponsors Council, the fund raising arm of the 4-H foundation. He was appointed to the board of trustees of the foundation several months ago.

Mr. Sykes emphasized three areas of the 4-H foundation's "Service to Youth" program that can be expanded: Citizenship education, leadership development and the International Farm Youth Exchange (IFYE).

Last year, nearly 1,200 4-H members, leaders and professional workers participated in citizenship and leadership programs of the 4-H foundation, Mr. Sykes reported. The current IFYE program includes 113 U.S. young people from 41 states and 109 foreign exchanges from 42 different countries.

This is the eighth year that Mr. Sykes has headed the 4-H fund drive in the feed industry, which is one of the major sponsors of the national foundation.

The National 4-H Club Foundation, with headquarters at the National 4-H Center in Washington, is a privately supported, non-profit, educational institution whose programs are designed to complement and assist the 4-H club movement.

Dr. Robert Grainger to Be Arkansas Speaker

FAYETTEVILLE, ARK.—A representative of Monsanto Chemical Co., St. Louis, will be a guest speaker at the 11th annual Arkansas Formula Feed Conference to be held at the University of Arkansas' Agricultural Experiment Station Sept. 28-29, the university announced.

Dr. Robert Grainger

Dr. Robert B. Grainger, a project manager in the agricultural chemicals division of Monsanto, is scheduled to speak on high energy formulas for beef cattle.

Dr. Grainger received his B.S. degree in chemistry from Central Missouri State College in 1947. His graduate studies were done at the University of Missouri, where he earned a M.A. degree in agricultural chemistry in 1949 and a Ph.D. degree in agricultural chemistry in 1953.

After completing his education, Dr. Grainger was associated with the department of animal nutrition at the University of Kentucky until 1960, when he joined the research department of Monsanto Chemical Co.

'MEAT' FROM SOYBEANS?

MINNEAPOLIS — Vegetable protein products that taste and look like meat are being investigated in the research laboratories of Archer-Daniels-Midland Co., Minneapolis.

"A promising program is under way for edible isolated soy proteins," ADM's 1961 annual report says. "These products, which are an even higher concentration of nutritious protein than Ardex 550 (a high protein flour made from soybeans), have some remarkable properties. They can be processed into foods resembling red and poultry meats . . . Edible isolated proteins are a potential source of healthful, low cost foods."

ADM's report notes that several food producers are preparing market tests of the simulated meat products made from the company's isolated proteins.

To Process Rice Hulls For Poultry Litter

STUTTGART, ARK.—Ground was broken here Aug. 25 for a new $100,000 plant that will process and bag rice hulls for use as poultry litter.

The plant will be operated by the J. B. Hunt Co. of Little Rock.

A company spokesman said the new plant is scheduled to begin operations in about two months.

Officers of the company are Johnnie B. Hunt, president; Robert C. Downie, Little Rock, secretary; Mrs. Evangeline O. Legg, Little Rock, assistant secretary; David C. McDonald, Stuttgart, treasurer, and David C. Hamilton of Winrock Enterprises, Inc., Little Rock, chairman of the board of directors.

Members of the board include Lloyd E. Peterson of the Peterson Breeding Farm, Inc., Decatur, Ark.; Gene George of the George Feed & Supply Co., Springdale, Ark.; Paul Vaughn of Arkansas Valley Industries, Dardanelle, Ark.; Ben J. Laney of Southern Rice Farms, Carlisle, Ark., and A. B. Cobb of Cobb Bros. & Co., Keo, Ark.

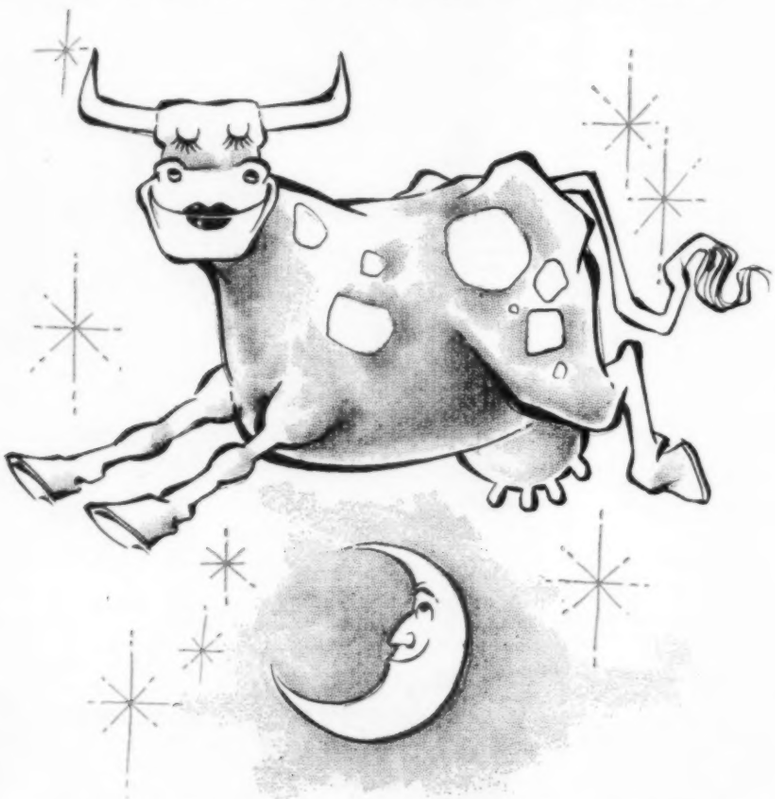
Seek Feed Plant Site

LA JUNTA, COLO.—Officials of the new Ewing Industries, Inc., were here recently investigating possible sites for location of a feed processing plant in addition to one already planned near Wiley.

The firm previously announced plans to open a new feed processing plant at the present site of the Keesee Alfalfa Mill near Wiley. Machinery for that facility is scheduled to arrive during the first week of September, and operations will begin early in October.

"It's Easy with Schenley Corn Distillers Dried Grains"*

said the cow when she jumped over the moon



Schenley Corn Distillers Dried Grains* with Solubles
are a popular protein supplement for dairy cows and a favorite ingredient in concentrate mixture for cattle.

Schenley Corn Distillers Dried Solubles*
are specially suited for swine and poultry rations and retain all nutritional values.

Schenley Milo Distillers Dried Grains*
are tested and have proven to be a good ingredient in dairy rations.

*They include GFF, the Grain Fermentation Factor.

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Feed and Grain Division
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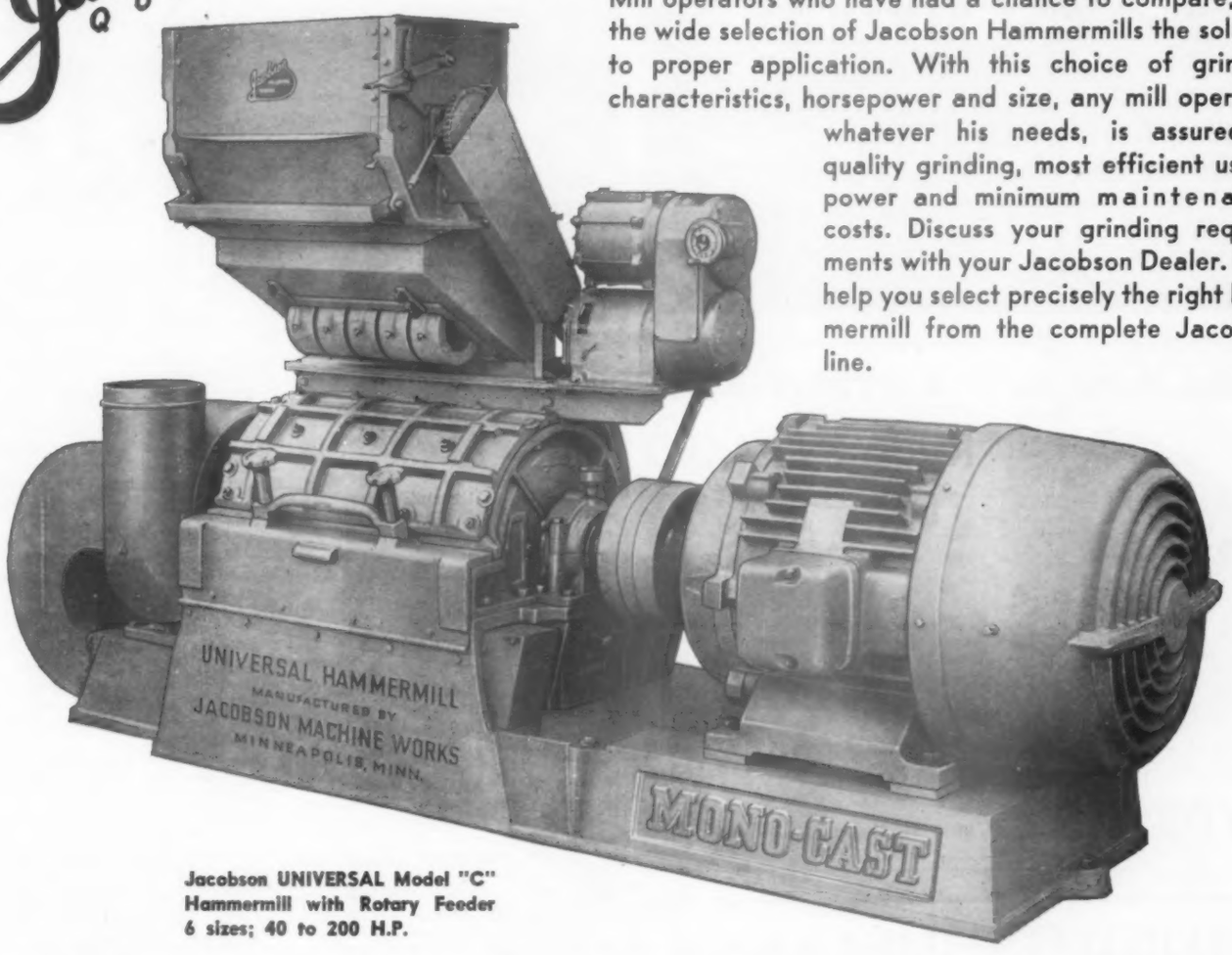
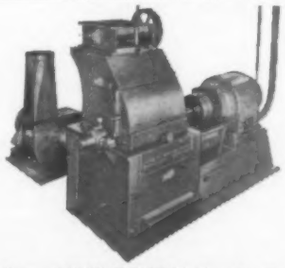
Wide Selection for Proper Application

Mill operators who have had a chance to compare, find the wide selection of Jacobson Hammermills the solution to proper application. With this choice of grinding characteristics, horsepower and size, any mill operator, whatever his needs, is assured of quality grinding, most efficient use of power and minimum maintenance costs. Discuss your grinding requirements with your Jacobson Dealer. He'll help you select precisely the right hammermill from the complete Jacobson line.

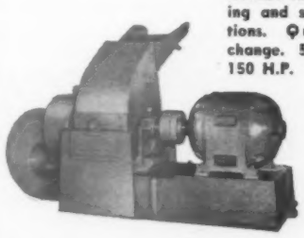


Jacobson UNIVERSAL Model "C" Hammermill with Rotary Feeder 6 sizes; 40 to 200 H.P.

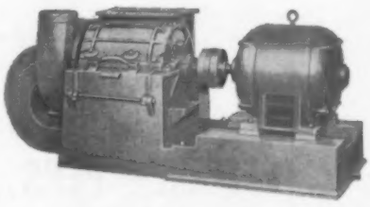


Jacobson AJACS-O-MATIC Remote Screen Change Hammermill. 4 sizes; 50 to 160 H.P.

Jacobson MASTER Remote Screen Change Hammermill for custom grinding. 3 sizes; 60 to 140 H.P.



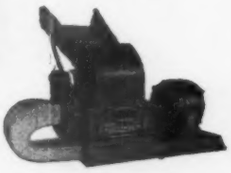
Jacobson AJACS Hammermill for custom grinding and special applications. Quick screen change. 5 sizes; 20 to 150 H.P.



Jacobson UNIVERSAL "Junior" Hammermill. 3 sizes; 10 to 50 H.P.

Jacobson AJACS Model "IT" Hammermill. 4 sizes; 20 to 100 H. P.

Jacobson SPEEDY Grinder. 1 size; 5 to 15 H.P.



Jacobson PULVERATOR for moderate grinding capacity or finishing dry products. 5 sizes; ¾ to 15 H.P.

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New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

Nov. 7-8—**Nebraska Poultry Improvement Assn.;** National Guard Armory, 176 No. 10th St., Lincoln; sec., Doyle H. Free, Poultry Husbandry Bldg., University of Nebraska, Lincoln.

1962

May 10-11—Alabama Poultry Industry Assn. Convention and Poultry Jubilee; Birmingham, Ala.; sec., W. L. Walsh, Box 567, Montgomery.

Sept. 11—Illinois All-Industry Poultry Day; Law Bldg., University of Illinois, Urbana; S. F. Ridlen, Poultry Extension Specialist.

Sept. 11-12 — Minnesota Nutrition Conference; Institute of Agriculture, University of Minnesota, St. Paul; chm., Dr. L. E. Hanson, Animal Husbandry Dept.

Sept. 11-13—Feed Production School; Continental Hotel, Kansas City; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Sept. 12-14—Dixie Poultry Exposition; City Auditorium, Asheville N.C.; Box 226, Monroe, N.C.

Sept. 13-14—Maryland Feed Service Conference; Chemistry Auditorium, University of Maryland, College Park; Wade H. Rice, Poultry Dept.

Sept. 14 — Small Mill Workshop; Continental Hotel, Kansas City, Mo.; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W 9th St. Bldg., Kansas City 5, Mo.

Sept. 15—Florida Swine Field Day; University of Florida, Gainesville; M. O. Watkins, director, Agricultural Extension Service.

Sept. 17-19—Northwest Retail Feed Assn.; Hotel Pick-Nicollet, Minneapolis, Minn.; sec., W. D. Flemming, Grain Exchange Bldg., Minneapolis 15.

Sept. 18-19 — Pet Food Institute; Drake Hotel, Chicago, Ill.; sec., Clyde Kassens, 333 N. Michigan Ave., Chicago 1.

Sept. 19-27—International Conference on Fish in Nutrition; Washington, D.C.; sec., Dr. Erik Heen, Chief, Fisheries Technology Branch, Food and Agriculture Organization, Washington 25.

Sept. 20-21 — Marketing Seminar for Feed Manufacturers; Morrison Hotel, Chicago; Sales Executives Council, American Feed Manufacturers Assn.; W. E. Glennon, president, 53 W. Jackson Blvd., Chicago.

Sept. 21—Minnesota Beef Cattle-Grassland Field Day; Rosemount Soils Farm, Rosemount, Minn.; Dr. O. E. Kolari, Animal Husbandry Dept., University of Minnesota, St. Paul 1, Minn.

Sept. 22-23 — Iowa Feed Conference; Memorial Union, Iowa State University, Ames; chm., Dr. C. E. Summers, Animal Husbandry Dept.

Sept. 24-26—Southeastern Feed Production School; Continuing Education Center, University of Georgia, Athens.; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 Ponce de Leon Ave., Decatur, Ga.

Sept. 27-28—Arkansas Feed Manufacturers Assn.; Mountain Inn, Fayetteville; sec., J. W. Cobb, Box 391, North Little Rock.

Sept. 27-29—12th Animal Care Panel; Statler Hilton Hotel, Boston, Mass.; chm., Dr. B. F. Trum, Director, Animal Research Center, Harvard Medical School, 25 Shattuck St., Boston 15.

Sept. 27-29—National Feed Ingredients Assn.; Lake Lawn Lodge, Delavan, Wis.; sec., I. Levin, 517½ E. Locust St., Des Moines 9, Iowa.

Sept. 27-29—Pennsylvania Millers & Feed Dealers Assn.; Hotel Hershey, Hershey, Pa., sec., D. W. Parke, P.O. Box 329, Ephrata, Pa.

Sept. 28—Vermont Feed Dealers and Manufacturers Assn.; University of Vermont, Burlington; sec., D. C.

384
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breeding farm
DECATUR, ARKANSAS

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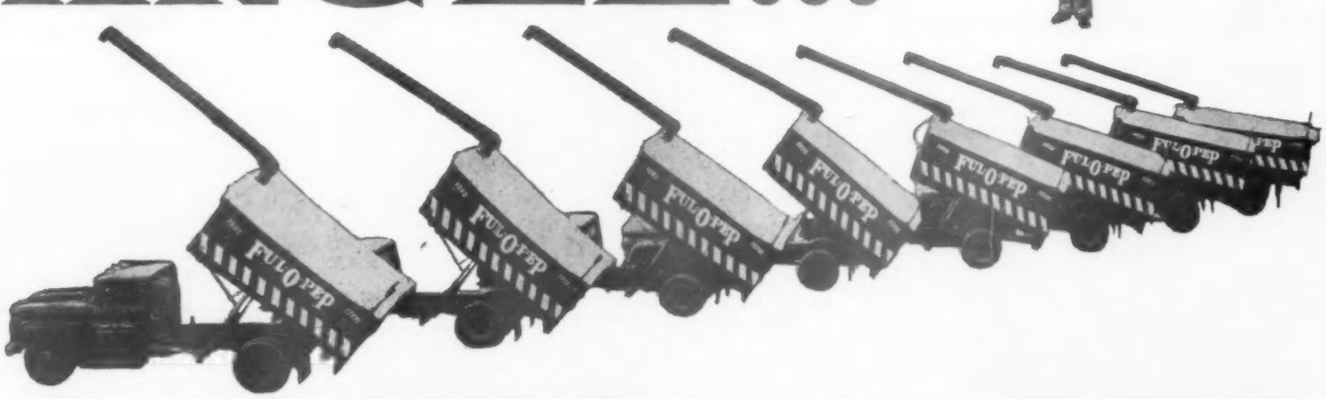

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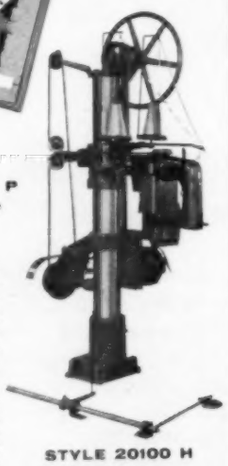

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SEPTEMBER

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Henderson, Hills Agricultural Science Bldg., Burlington, Vt.

Sept. 28-29 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville; Dr. E. L. Stephenson, animal industry and veterinary science department.

Oct. 2-3—Washington Poultrymen's Institute; Centralia Junior College; Dr. Leo Jensen, Poultry Science Dept., Washington State University, Pullman.

Oct. 3-5—Northeastern Poultry Producers Council Exposition and Convention; Farm Show Bldg., Harrisburg, Pa.; sec., Richard I. Ammon, 10 Rutgers Place, Trenton 8, N.J.

Oct. 4-6—Texas Nutrition Conference; Texas A&M College, College Station; chm., Dr. J. R. Couch, Poultry Science Dept.

Oct. 8-10—Poultry Industries of Louisiana; Bellemont Motor Hotel, Baton Rouge, La.; sec., Stella Jones, Poultry Industry Dept., Louisiana State University, Baton Rouge.

Oct. 10-11—Iowa Poultry Convention; Veteran Memorial Auditorium, Des Moines; sec., Iowa Poultry Assn., LeRoy Kruskop, 535 E. Lincoln Way, Ames, Iowa.

Oct. 11-12—Missouri Turkey Short Course and Show; University of Missouri, Columbia; sec., Missouri Poultry Improvement Assn., E. M. Funk, Box 568, Columbia.

Oct. 12-13 — West Virginia Feed Dealers Assn.; Blackwater Falls Lodge, Davis, W.Va.; sec., J. Z. Ellison, 801 Willowdale Road, Morgantown, W.Va.

Oct. 15-17—Kentucky Poultry Federation and Kentucky Poultry Improvement Assn.; Kenlake Hotel, Hardin, Ky.; field mgr., Kentucky Poultry Improvement Assn., John W. Tuttle, 730 Rose St., Lexington, Ky.

Oct. 15-20—School of Executive Development in Business Management, Unit III; Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 Ponce de Leon Ave., Decatur, Ga.

Oct. 16-17—California Animal Industry Conference; Fresno Memorial Auditorium, Fresno, Cal.; co-sponsored by California Hay, Grain & Feed Dealers Assn. and University of California; sec., California Hay, Grain & Feed Dealers Assn., Leo L. Johnson, Blue Anchor Bldg., 1400 10th St., Sacramento, Cal.

Oct. 18-19—National Broiler Council; King Edward Hotel, Jackson, Miss.; exec. v.p., Frank Frazier, Byrd Building, Richmond 26, Va.

Oct. 23-25 — Centennial Nutrition Conference; Hotel Muehlebach, Kansas City 5, Mo.; sponsored by Midwest Feed Manufacturers Assn. and Land-Grant Colleges in Midwest's area; executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Oct. 24-25—Virginia State Poultry Federation; Hotel John Marshall, Richmond, Va.; sec., J. Paul Williams, 615 E. Franklin St., Richmond 19.

Oct. 24-25—Indiana State Poultry Assn.; Hotel Severin, Indianapolis; sec., Robert L. Hogue, Poultry Science Bldg., Purdue University, Lafayette.

Oct. 26-28—Association of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; sec., Bruce Poundstone, Head, Feed and Fertilizer Control Dept., University of Kentucky, Lexington.

Nov. 1—Animal Nutrition Research Council; Shoreham Hotel, Washington, D.C.; sec., Dr. Philip Derse, Wisconsin Alumni Research Foundation, 506 Walnut St., Madison 5, Wis.

Nov. 1-2—Kansas Poultry Assn.; Broadview Hotel, Wichita; sec., Harry J. Reed, Box 663, Manhattan.

Nov. 1-3—Cornell Nutrition Conference; Statler Hilton Hotel, Buffalo, N.Y.; chm., Prof. Douglas E. Hogue, Animal Husbandry Dept., Wing Hall, Cornell University, Ithaca, N.Y.

Nov. 5-8—National Renderers Assn., Inc.; Waldorf-Astoria Hotel, New York, N.Y.; asst. sec., Rose Alpert, 30 North La Salle St., Chicago 2, Ill.

Nov. 8-9—Illinois Feed Assn.-Illinois Poultry and Hatchery Federation joint convention; Springfield Armory, Springfield; sec. I.F.A., Dean M. Clark, 141 W. Jackson Blvd., Chicago 4; sec., I.P.H.F., Aubrey Harless, Shelbyville, Ill.

Nov. 9-10—National Swine Industry Conference; Statler-Hilton Hotel,

5
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SQUARE STORAGE BINS

Manufactured for the Feed Industry

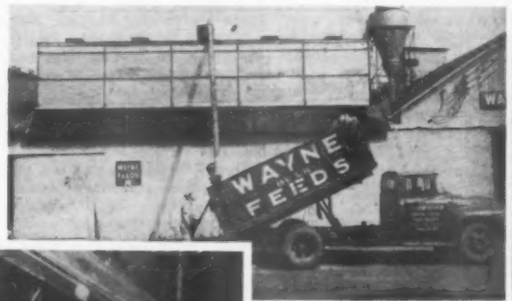
The trend toward BULK is gathering momentum.

Feed companies are promoting it . . . some mill owners have already completed the changeover . . . many others have started. These elevator and mixing mill operators know that the handling of concentrates in BULK saves money, time and labor.

With the Lemanco square bin system you can BULK-IN and BULK-OUT with a minimum investment, adding more bins as your BULK business grows.

Some of the ways Lemanco square bins can be used to BULK-IN concentrates are shown on this page. These bins have common wall construction with sides, partitions and tops of galvanized steel and all-welded painted hoppers . . . smooth walls and a minimum pitch of 60° and designed so that no tie rods are necessary. Various types of discharge gates are available.

Modern feed mill recently built in Iowa showing Lemanco square bins extending through roof. Ten separate compartments are close to mixing area permitting gravity discharge into weigh buggy. In this type construction additional bins can be added when needed.



Lemanco bins shown five-in-line installed next to mill building and then enclosed for protection from weather. Building floor is extended under bins leaving plenty of room for warehouse and storage purposes.

This Lemanco four compartment bin extends through the second floor of an Iowa feed mill. It is loaded through a cross auger system and drawn off to a work area into a weigh buggy and wheeled to the mixer.

A loadout bin such as this permits the mill to schedule its operations without having to wait for the customer to come for his feed. As many compartments as needed can be arranged in this manner.

This elevator needed bulk concentrate storage in a convenient location. A concrete slab was poured, bins being mounted outside with augers entering the work area. Weigh buggy received ingredients for delivery to the mixer. Each of four augers bring in different concentrates.

This mill increased its finished feed storage with two Lemanco 32-ton compartments and four 16-ton compartments, eliminating need for shut-down due to lack of finished feed storage bins. Air slide gates make for ease of operation.

Have your contractor, millwright, feed salesman, or yourself write for information how you can BULK-IN or BULK-OUT your mill.

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ONE REBUILT 15 BUSHEL RICHARDSON automatic grain scale replaced with track scale. Write Carter Feed Mills, Odessa, Mo.

CHAMPION MOBILE GRINDER AND mixer mills. Champion Portable Mill Co., 2105 Como Ave. S.E., Minneapolis 14, Minn.

FEED MIXER, 1-TON CAPACITY, GUARanteed first-class throughout, 5 H.P. motor drive. Address Ad No. 3479, Feedstuffs, Minneapolis 40, Minn.

WHIRLAWAY AIRBLAST CAR LOADERS, flour, feed and grain machinery. One of the oldest and largest experienced equipment houses. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

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Nov. 17—Nebraska Feed and Nutrition Conference; University of Nebraska, Lincoln; Dr. P. L. Kelly, chm., Dairy Husbandry Dept.

Nov. 17-18—Tennessee Feed Manufacturers Assn.; Chisca Downtown Motel, Memphis, Tenn.; sec., C. H. Warfield, 200 American Trust Bldg., Nashville, Tenn.

Nov. 19-21—Western Grain & Feed Assn. of Iowa; Fort Des Moines Hotel, Des Moines, Iowa; sec., Bob Skinner, 401 Shops Bldg., Des Moines 9.

Nov. 30-Dec. 1—Dealers Nutrition Conference; University of Nebraska, Lincoln; Dr. P. L. Kelly, chm., Dairy Husbandry Dept.

Dec. 5-6—North Dakota Turkey Convention; Civic Center Auditorium, Fargo; sec., North Dakota Turkey Federation, Irving J. Mork, Box 2408, State University Station, Fargo.

Dec. 6-7—Missouri Poultry and American Poultry & Hatchery Federation Midwest Quickie Convention; Hotel Continental, Kansas City, Mo.; sec., Missouri Poultry Improvement Assn., E. M. Funk, Box 568, Columbia, Mo.

Dec. 7-8—Michigan Feed and Grain Dealers Assn.; Pantland Hotel, Grand Rapids, Mich.; sec., Nevels Pearson, Box 472, East Lansing.

Dec. 7-8—North Carolina Animal Nutrition Conference; North Carolina State College, Raleigh; chm., Dr. G. H. Wise, Animal Nutrition Section, Animal Industry Dept.

1962

Jan. 9-11—National Turkey Federation; Memorial Auditorium, Dallas, Texas; co-headquarters hotels, Baker and Adolphus; sec., M. C. Small, Box 69, Mount Morris, Ill.

Jan. 21-23—Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indianapolis; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis 4.

Jan. 21-24—Farmers Grain Dealers Association of North Dakota; Civic Memorial Auditorium, Fargo; sec., Lloyd C. Hanson, 513 Black Bldg., Fargo.

Jan. 28-30—Midwest Feed Manufacturers Assn.; Shamrock - Hilton Hotel, Houston, Texas; exec. vice pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City, Mo.

Jan. 29-31—Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Jan. 31-Feb. 1—New Hampshire Poultry Health Conference; University of New Hampshire, Durham; Richard Warren, Poultry Science Dept.

Feb. 1—Missouri Turkey Day; University of Missouri, Columbia; sec., Missouri Poultry Improvement Assn., E. M. Funk, Box 568, Columbia.

Feb. 1-2—Oregon Animal Industry Conference; Oregon State University, Corvallis, Ore.; co-sponsored by the Oregon Feed & Seed Dealers Assn. and Oregon State University; chm., Bill Eggimann, Dairy Cooperative Assn., 2613 S.E. 8th Ave., Portland.

Feb. 4-6—Wyoming Grain, Feed & Seed Dealers Assn.; Townsend Hotel, Casper, Wyo.; sec., Everett L. Berry, Box 118, Sheridan, Wyo.

Feb. 5-7—Association of Southern Agricultural Workers; Jacksonville, Fla.

Feb. 7-9 — American Dehydrators Assn.; Stardust Hotel, Las Vegas, Nev.; Joseph Chrisman, 430 Board of Trade Bldg., Kansas City 5, Mo.

Feb. 9-11—Poultry Fact Finding Conference; sponsored by Institute of American Poultry Industries; Municipal Auditorium, Kansas City, Mo.;

pres., Harold M. Williams, 67 E. Madison, Chicago 2, Ill.

Feb. 12-13—Montana Nutrition Conference; Montana State College, Bozeman; chm., Dr. O. O. Thomas, Animal Industry and Range Management Dept.

Feb. 14-15—Pacific Northwest Feed Mill Production School; Benjamin Franklin Hotel, Seattle; sponsored by Washington State Feed Assn.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 16—Washington State Feed Assn. annual convention; Benjamin Franklin Hotel, Seattle; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 20-21—Virginia State Feed Convention and Nutrition Conference; Hotel Roanoke, Roanoke, Va.; sec., Virginia State Feed Assn., J. Paul Williams, 615 E. Franklin St., Richmond 19, or Prof. Paul M. Reaves, Dairy Science Dept., Virginia Polytechnic Institute, Blacksburg.

Feb. 26-March 1—Colorado Livestock Days; Colorado State University, Fort Collins; chm., Dr. C. D Story, head, Animal Science Dept.

March 2-3—Oklahoma Feed Industry Conference and Work Shop; Oklahoma State University, Stillwater; Dr. Rollin H. Thayer, chm., Poultry Science Dept.

March 8-9—Maryland Nutrition Conference; Shoreham Hotel, Washington, D.C.; chm., Dr. R. D. Creek, Poultry Dept., University of Maryland, College Park.

March 15-16—Oregon Feed & Seed Dealers Assn.; Sheraton Hotel, Portland; sec., Russ Hays, Lewis Bldg., Portland 4.

March 15-17—Pacific Dairy and Poultry Assn.; Biltmore Hotel, Los Angeles, Cal.; sec., Lloyd J. Powers, 1304 E. 7th St., Los Angeles 21.

March 19-21—Poultry and Egg National Board; Palmer House, Chicago, Ill.; mgr., Lloyd H. Geil, 8 S. Michigan Ave., Chicago 3.

March 21-23—Grain & Feed Dealers National Assn.; Denver-Hilton Hotel, Denver, Colo.; Secretaries Circle meetings March 19-20; sec., Herbert L. Sharp, 401 Folger Bldg., 725 - 15th St. N.W., Washington, D.C.

March 25-30—Grain Elevator & Processing Superintendents; Town House Motel, Omaha, Neb.; sec., Dean M. Clark, 1115 Board of Trade Bldg., Chicago 4, Ill.

March 28—Distillers Feed Conference; Sheraton Gibson Hotel, Cincinnati, Ohio; Dr. Lawrence E. Carpenter, Executive Director, Distillers Feed Research Council, 1232 Enquirer Bldg., Cincinnati 2.

March 28—Commercial Egg Clinic; Texas A&M College, College Station; B. C. Wormeli, Extension Poultry Husbandman.

April 9-10—National Institute of Animal Agriculture; Purdue University, Lafayette, Ind.; sec., Karl D. Butler, P.O. Box 521, First National Bank Bldg., Ithaca, N.Y.

April 10-12—Animal Health Institute; Statler-Hilton Hotel, Washington, D.C.; sec., D. L. Bruner, 512 Shops Bldg., Des Moines 9, Iowa.

April 13—Illinois Cattle Feeders Day; University of Illinois, Urbana.

April 18—Nebraska Feeders Day; University of Nebraska, Lincoln; chm., Dr. Robert M. Koch, Animal Husbandry Dept.

April 26-28—Texas Grain & Feed Assn.; Hotel Texas, Ft. Worth; sec., R. B. Bowden, 504 Ft. Worth Club Bldg., Ft. Worth 2.

April 26-28—California Hay, Grain & Feed Dealers Assn.; Biltmore Hotel, Los Angeles, Cal.; sec., Leo L. Johnson, 1400 10th St., Sacramento 14, Cal.

April 26-28—Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita, Kansas; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

May 4-5—Illinois Grain Dealers Assn.; St. Nicholas Hotel, Springfield, Ill.; exec. sec., Donald E. Palmer, 910 Lehmann Bldg., Peoria, Ill.

May 10-12—American Feed Manufacturers Assn.; Conrad Hilton Hotel, Chicago, Ill.; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 54.

May 27-28—Missouri Grain & Feed Assn.; Hotel Governor, Jefferson City, Mo.; sec., D. A. Meinershagen, Higginsville, Mo.

June 28-30—Canadian Feed Manufacturers National Assn.; Sheraton Brock Hotel, Niagara Falls, Ontario, Canada; sec., Ontario Division, H. J. Willcock, 356 Eastern Ave., Toronto 8, Ontario.

July 17-19—American Poultry Congress & Exposition; St. Louis, Mo.; sec., American Poultry & Hatchery Federation, Don M. Turnbull, 521 E. 63rd St., Kansas City 10, Mo.

Aug. 13-18—12th World's Poultry Congress; Show Grounds of the New South Wales Royal Agricultural Society, Sydney, Australia; Dr. Cliff D. Carpenter, chairman, U.S. Participation Committee, 1207 Emerald Bay, Laguna Beach, Cal.; Dr. A. William Jasper, secretary, c/o AFBF, 2300 Merchandise Mart, Chicago 54, Ill.

1963

March 24-29—Grain Elevator & Processing Superintendents; Commodore Perry Hotel, Toledo, Ohio; sec., Dean M. Clark, 1115 Board of Trade Bldg., Chicago 4, Ill.

DEHYDRATED PELLETS MOVE BY BARGE—Shown here is the first barge load of dehydrated pellets from Consolidated Blenders, Inc., Nebraska City, Neb., ever barged into the port of Tampa, Fla. The load originated at Nebraska City. It was barged down the Missouri River to St. Louis, then down the Mississippi River to New Orleans and across the gulf to Tampa. Standing left to right on the barge are: J. Nelson Macbeth, Mechling Barge Lines; Jim Barnhardt, The Early & Daniel Co.; Barney Heagey, John W. Eshelman & Sons; Ralph Sumner, Illinois Grain Corp.; Bill Lavinghousez and Lee Harlan, The Pillsbury Co.; Jim Beasley, Jackson Grain Co.; Jim Jewett, Ralston Purina Co.; Joe Martino, P. C. Martino & Co.; Don Edminston, Harding Milling Co.; Noah Miller, The Quaker Oats Co., and Lowell Price, Consolidated Blenders, Inc.

Canada Counts Birds

OTTAWA—Canada's June 1, 1961, inventory of poultry on farms indicated a 3% increase in hens and chickens and a 25% gain in turkeys from a year earlier.

The total of all poultry on farms in Canada June 1 of this year—estimated at 79.1 million birds—was 5% higher than on the same date in 1960 when the comparable total was 75.6 million birds. The June, 1961, estimate includes 70,780,000 hens and chickens, 7,697,000 turkeys, 264,000 geese and 391,000 ducks.

The Dominion Bureau of Statistics said the 3% increase in the hen and chicken total occurred because a sizeable rise in the number of chicks more than offset the declines registered for the other categories of hens and chickens. Classifications of hens and chickens as reported in this year's survey are not quite the same as in previous year and, therefore, data for some categories are not fully comparable with previous estimates.

Although 4.9% fewer egg-type chickens were placed in April and May than in 1960, there was a 37% increase in broiler chick placements.

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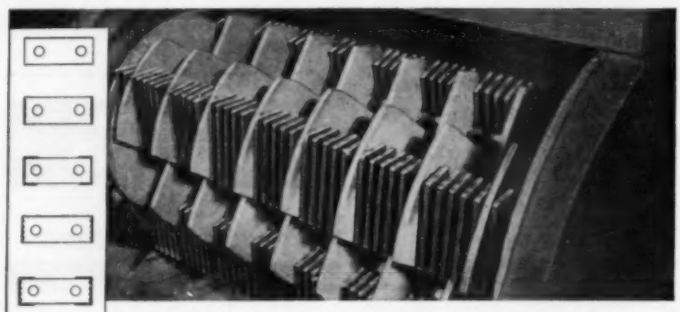

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NAMES

(Continued from page 11)

ated with Plus Poultry, Inc., Siloam Springs, Ark. He will work in the product sales and public relations department. Mr. Haid has been the federation's manager since December, 1959.

Lex Killebrew, who has been executive secretary of the Arkansas Poultry Federation, has succeeded Mr. Haid. Mr. Killebrew was formerly a business man and cattleman at Siloam Springs.

Dr. Hal Yacowitz Robert Maynard

RESEARCH GRANT TO DR. HAL YACOWITZ—Dr. Hal Yacowitz, nutrition consultant, Bound Brook, N.J., has been awarded a research grant by the Morris County Heart Assn.

The grant supports research on cardiovascular diseases and involves a study of factors influencing the absorption of fats in chicks. The project is being conducted in the Health Research Institute of Fairleigh Dickinson University, Madison, N.J.

Dr. Yacowitz will continue to operate his consulting service and research laboratory for the feed industry and allied groups.

SECO APPOINTS ROBERT MAYNARD COMPTROLLER—Robert P. Maynard has been appointed comptroller for SECO, Inc., Goodlettsville, Tenn. The announcement was made by Paul J. Zimmerman, executive vice president.

Mr. Maynard was formerly accounting manager at the Kerrigan Iron Works Co., Nashville, Tenn. Prior to that position, he was chief accountant at the Nashville Federal Reserve Bank.

Cruise Planned

CHICAGO—The National Renderers Assn. has announced plans for a post-convention cruise to Nassau Nov. 11-18. The cruise will follow the group's convention Nov. 5-8 at the Waldorf-Astoria Hotel in New York.

TO SPEAK AT ARKANSAS—**Dr. S. R. Johnson, director of nutrition, MFA Milling Co., Springfield, Mo., will open the first afternoon session at the 11th annual Arkansas Formula Feed Conference Sept. 28-29 at the Arkansas Agricultural Experiment Station in Fayetteville. Dr. Johnson's talk is entitled, "What Analyses Can and Should the Feed Manufacturer Make?" The speaker was a member of the staff at the Arkansas Agricultural Experiment Station from 1938 to 1948.**

Oakley Ray to Address Arkansas Feed Event

FAYETTEVILLE, ARK. — Oakley Ray, director of market research for the American Feed Manufacturers Assn., Chicago, will be a guest speaker at the 11th annual Arkansas Formula Feed Conference to be held at the University of Arkansas Sept. 28-29, announced Dr. E. L. Stephenson, animal husbandman in charge of the program.

Mr. Ray will speak on government and the feed industry.

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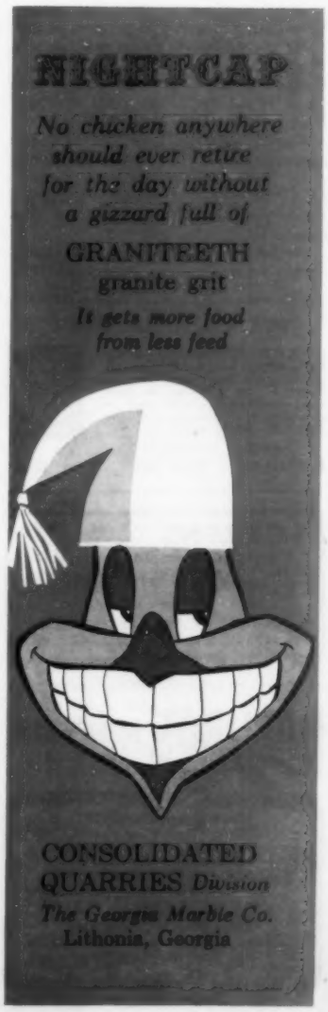
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BROILERS

(Continued from page 1)

was pointed out that this did not mean government controls at the broiler producer level. Three eligible voters abstained. A total of 391 persons attended the meeting.

The meeting of the Georgia Poultry Federation was called at the request of the Georgia Feed Dealers Assn, an affiliate of the federation.

The plan on which poultrymen voted was offered as something new. It was said that it would involve federal policing of industry marketing orders at the hatchery level.

Would Amend Farm Bill

Julius Bishop, Master Mix, Athens, representing a committee of Georgia feed dealers, outlined the plan, which would involve an amendment to the present farm bill.

"Specifically, we are suggesting that the words 'broiler hatcheries,' be added to the present farm bill. We would then be in position to request an immediate election in the industry as to a proposed cutback," he said.

Mr. Bishop said investigation showed the omnibus bill passed in Congress is in reality an amendment to a farm bill in force since 1937. Therefore, Congress would only have to amend it.

"But we've got to do it in this term of Congress, and I understand adjournment is scheduled for sometime between Sept. 15 and Oct. 15. This means there is little time for delay if we are to get something done this year," Mr. Bishop said.

State agriculture commissioner Phil Campbell appeared and said he is ready to call a meeting next week of commissioners of other states in the broiler area in the South. Such a meeting will be to pave the way toward influencing Washington to act quickly, he said. Presumably, however, other state associations will have to approve the plan.

Mr. Campbell said Mr. Freeman now has authority to buy up breeder hens and the vote included a request that Mr. Freeman be asked to start buying immediately. It was pointed out that even if Congress approves the proposed amendment to the omnibus farm bill, five months or more may expire before marketing orders could be set up.

Suggests Hen Program

Dr. Ken Laurent, Marbut Milling Co., Augusta, said the industry needs relief now, and he suggested the hen program, originally proposed by Sen. Herman Talmadge, be made effective now since Mr. Freeman apparently has authority to make purchases.

Sen. Talmadge had previously set up two meetings with Mr. Freeman to boost the breeder purchases, but both meetings were postponed. Trade sources, after surveys, indicated difficulties in obtaining hens.

If marketing orders are completed—and it is pointed out that other broiler states would have to approve the plan, too—a committee representing industry and government would work out many of the details of how the federal government would do the policing.

Commissioner Campbell, upon questioning, said the industry would be able to vote against marketing orders in the future if prices become stabilized again and marketing orders are not needed.

Mr. Bishop, in his report, said:

"Just as the broiler industry has always solved its problems, it will do so again within the next six months, but unless we get supply in line with demand and competition, we could well see the industry in the hands of four or five major companies. That would not be in the best interest of most of our people, and quite probably the small feed mills, hatcheries, processing plants and others would be out of business."

Admittedly, speakers pointed out, the cooperation of other broiler states will have a bearing on whether the plan of action will succeed. "We can't do it by ourselves; other states must help," Mr. Bishop said.

It was also pointed out that this week Mississippi voted against government controls, but speakers noted that their vote was not on marketing orders, but on government production controls.

"I am afraid that at this time there is nothing that can alleviate the present condition existing in the industry except some type of industry control administered by the federal government. I fully realize that there is reluctance in the industry to suggest any type of controls. If it is agreed that we can no longer regulate supply and demand on a level that will mean profitable prices, then isn't it realistic to turn to some type of industry control or regulation, whichever is more fitting, administered by our federal government?" Mr. Bishop asked.

The vote was in favor of a committee working out the complex details of recommended percentage of cutback, possibly holding industry elections. A vote of two thirds of industry would be required.

Change in Views

Commissioner Campbell pointed out the fact that a few weeks ago industry was largely dead set against control.

"There's been a change in the last two weeks," he said.

He did not say what day next week commissioners of other broiler states would meet with him but added "they have been alerted."

The meeting in Gainesville of the Georgia Poultry Federation was billed as the "most important poultry meeting ever called in Georgia." Max Ward, president of the federation, made the statement.

The session was called at the request of the Georgia Feed Dealers Assn., which had earlier appointed a committee to work out a proposal of either recommended government controls, or at least a program of inside controls.

The committee of the feed association included Julius Bishop, Reeder Tucker, Smith Johnston, Tom Arrendale and Tom Folger.

Breeder Hen Purchases

One of the features of the plan being discussed earlier in Georgia was for the government to purchase at least 6 to 8 million breeder hens. It was felt that this was the best way to bring immediate relief to the industry.

Part of the plan is for a nationwide drive to convince growers that they simply must cooperate in the drive and if government assistance is available in buying up these hens, then some sacrifices must be made.

The executive committee of the Georgia Poultry Federation came out in favor of this plan, which was originally offered by Sen. Talmadge.

The federation, it was understood, is in favor of asking the government to pay a high enough price for hens so that breeder farmers will be encouraged to sell.

Special Meeting

In Atlanta this week, a special meeting of the executive committee of the Southeastern Poultry & Egg Assn. was held to "review" the entire poultry situation, according to former executive secretary Harold Ford. Mr. Ford, effective Sept. 1, resigned to take a position with Mar-Jac in Gainesville but remained in Atlanta for the meeting. The committee heard a specific proposal from the Georgia Poultry Federation regarding a breeder hen removal program, according to Norman Sanders, Columbia, S.C., association president.

"It was the consensus of the group that opinion and proposals from affiliated poultry trade organizations in the other states of the Southeast should be heard before final action is taken," Mr. Sanders stated.

All state organizations were being urged to officially inform Southeastern of their views prior to a full board meeting Sept. 23, according to Bob Martin, executive secretary.

In addition to the buying up of breeders, such subjects as the oncoming turkey marketings were discussed. The turkeys will begin moving to fall markets within the next few weeks, and with the expected possible onslaught of hens pouring into market, it is felt that this could have some economic bearings on both chicken and turkey markets.

An announcement by the government of an intention of paying a good price for hens might possibly prevent a flooded condition on the hen market, it was believed. Otherwise, the normal time for movement of hens, which is about Sept. 15, could possibly be further injurious.

Also, along about the middle of this month, the commercial egg market could be affected by increased number of hatching eggs being diverted into commercial egg channels.

In calling the meeting in Gainesville, Georgia, President Ward said it was important that members of the industry turn out in large numbers in order to make the presentation to the government look impressive.

Processors from nine states also met last week in Atlanta to continue discussions for the slaughter of breeders.

Meanwhile, in South Georgia a new association began to function. Growers from four counties—Bacon, Ware, Appling and Coffee—met at Alma to form the "Southeastern Poultry Assn." At a meeting Thursday night, the group voted for broiler quotas at the farm level and price supports. The group said it represents a production capacity of 2.5 million broilers a year.

Officials of the new group said the industry "faces bankruptcy unless relief is provided immediately."

Shafter Varnadore of Alma was elected president; Aubrey Findley, Alma, vice president; Windle Taylor, Alma, executive secretary, and Darrell Bennett, Alma; E. L. Herndon, Baxley, and Lyman Thompson, Douglas, directors.

Regarding the Gainesville meeting, Mr. Ward said prior to the meeting that it is important that the industry produce an expression of "where we stand regarding this so we can act with one line of thought." With so many poultrymen talking government controls, while others prefer inside controls, the industry must make up its mind and should act uniformly. This, he said, was one of the purposes of the meeting of the Georgia federation, which represents eight different industry associations, 300 member firms and 2,300 individuals in Georgia alone.

Mississippi Poultry Improvement Assn. also met this week to review the problems with 80% of the state's production present. Significantly, these members voted 22 to 1 in opposition to government controls.

In South Carolina, a youthful state in poultry production, the consensus was against government controls. A banker, H. M. Simmons, Jr., assistant vice president of the Wachovia Bank & Trust Co., Charlotte, suggested that the South's poultry business will come out of the present crisis and will flourish again. He said his bank is still very much interested in poultry and would continue to be so.

And O. H. Green of Seven Oaks Farm, Spartanburg, who is known far and wide as a bitter foe of any form of government participation in business as against free enterprise, said: "If you think you can have controls for a year or so until the market improves and then drop them, you have the wrong idea. Once government controls are placed into effect, they're going to be there from now on. Look at the 'temporary' taxes levied during the last war—we've still got them!"

At the Gainesville meeting, it was pointed out that the latest report on egg settings showed Georgia down while other states showed increases. This, it was said, indicated that the Georgia industry was trying to cut back while others were not.

EXECUTIVES

(Continued from page 1)

money management problems also will be discussed during the two-day event.

In addition to the speaking program, there will be "buzz sessions"—informal discussion sessions led by speakers and program committee members.

Registration will begin late Tuesday, Sept. 19. The seminar will conclude following a luncheon on Sept. 21.

Setting the stage for the discussions will be lead-off talks by the Sales Executives Council chairman, Robert D. Emmons, Wirthmore Feeds, Inc., and the AFMA board chairman, Dean McNeal of The Pillsbury Co. The title of Mr. McNeal's talk is "Sell or Surrender."

Information on the seminar, open to all sales executives, may be obtained from the AFMA, 53 W. Jackson Blvd., Chicago 4, Ill.

TOP OF THE HOPPER

(Continued from page 2)

groups have maintained opposition to controls, others, saying that the situation is now "desperate," indicate willingness to have the government move in in some way.

THE AMERICAN POULTRY & HATCHERY FEDERATION recently polled its directors to determine whether the association should support the proposal of Sen. Herman Talmadge that the government start buying breeder hens to curb production. Reports APHF: "Noting that only a few states had increased their broiler hatches this year, the director from a state which had cut back suggested that those responsible for the increases 'fry in their own grease.' The question, of course, was whether others were likely to fry too."

APHF also raises the question as to whether or not hatcherymen would sell breeders under a government purchase program. "After all," the association states, "most of them had a pretty good deal going on hatching eggs so long as their hatcherymen-buyers remained solvent. Why sell breeder hens for 12-13¢ lb. when hatching eggs would bring 55 to 60¢ doz.?"

AN EFFORT IS BEING MADE in California to halt the gobbling up of farm land by rapid suburban development. Cattlemen and other feeders are being asked to support a measure which will be put on the general election ballot next year, providing a way of adjusting taxes for farmers so that further sales of land for home and industry developments will be less attractive. Proponents of the proposition say that the city dwellers will be one of the major beneficiaries. They point out that at the rate state farm land is disappearing, Californians will soon have to import food that is now raised in the state. They estimate that over 2 million acres of prime productive land have been put out of agricultural production in the past 20 years. It is hoped that urban growth can be diverted to land unsuited for agriculture.

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bulk, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

ALFALFA MEAL

Boston: Demand and supply steady; trend steady; dehydrated, 17% $51; suncured, 13% $48, sacked; both unchanged.

St. Louis: Demand firm; trend firmer; supply ample; dehydrated, 17% protein, 100,000 units vitamin A, pellets $41, unchanged.

Memphis: Demand fair; trend higher; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $41, down $4; reground pellets $47.60, unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $44@48, up $1.

Seattle: Demand fair; trend steady; supply ample; suncured, 15% protein $39, Seattle, up $1; dehydrated, 150,000 A units $67, Seattle, unchanged.

Ft. Worth: Demand fair; trend steady; supply sufficient; sacked: dehydrated, 17%, 100,000 A $49, truck or rail, unchanged; suncured: 13% ¼-in. grind, No. 1 $42, truck, unchanged.

Minneapolis: 17% dehydrated, 100,000 units vitamin A reground pellets $46, oiled reground $47, no change from last week.

Los Angeles: Demand steady; trend unchanged to easier; supply ample; dehydrated meal, 17% protein, 100,000 A $50@51, unchanged; dehydrated pellet meal, 17% protein, 100,000 A $52@54, unchanged; suncured meal, 15% protein $41@42, down $1; suncured crumbles, 15% protein, $43@44, down $1.

Kansas City: Demand fair; trend steady; supply adequate; 17% dehydrated alfalfa, 100,000 A, pellets $38@42; reground pellets $41@43; 18% dehydrated alfalfa, 125,000 A, pellets $42@45; reground pellets $44@46; 20% dehydrated alfalfa, 150,000 A, pellets $45@50; reground pellets $49@51; all unchanged.

Portland: Demand fair for both kinds; trend soft for suncured, steady dehydrated; supply ample for both; 15% suncured $39, 20% dehydrated pellet meal $69, both sacked.

Chicago: Demand and supply fair; trend irregular; dehydrated, 17% protein, 100,000 units vitamin A $43.10@45.10.

Buffalo: Demand and supply fair; trend lower; $54.10, sacked, Boston, off $1.

Denver: Demand fair; trend steady; supply ample; dehydrated $41, unchanged.

ANIMAL FAT (STABILIZED)

Memphis: Demand fair; trend steady; supply ample; yellow grease 5¾¢ lb., down ⅛¢; prime tallow 6¢ lb., down ⅛¢.

Boston: Demand fair; trend easier; supply ample; tallow 5⅝@6¢ lb., off ⅛¢; yellow grease 5⅛@5½¢ lb., off ⅜@⅛¢.

St. Louis: Demand fair; trend steady; supply ample; yellow grease 5¾¢ lb., delivered, tank trucks or cars, unchanged.

Ft. Worth: Demand fair; trend steady; supply moderate; prime tallow, tank cars 5¾¢ lb., drums 7¾¢ lb., f.o.b. north Texas packing plants with returnable drums, unchanged.

Chicago: Demand fair; trend easier; supply ample; tank truck or carlots, bleachable fancy tallow $6.12½ cwt., yellow grease $5.50 cwt.

St. Paul: Demand good; supply ample; bleachable fancy steady at 6¢ lb., f.o.b. producer's plant.

Los Angeles: Demand good; trend steady; supply ample; 6½¢ lb., unchanged

Atlanta: Demand good; trend steady; supply ample; 6¢ lb., delivered.

BARLEY FEED

Boston: Demand and supply light; trend steady; $48.50, unchanged.

Seattle: Demand good; trend firm; supply fair; $47.50, truck lots, up 50¢.

Los Angeles: Demand slow; trend steady; supply adequate; $2.65 cwt., unchanged.

Baltimore: Demand quiet; trend steady; supply fair; $45.50, sacked.

Chicago: Demand slow; trend firm; supply fair; $36, sacked.

BLOOD MEAL

Los Angeles: Demand slow; trend steady; supply limited; $5.50 a unit of ammonia, sacked, unchanged.

Chicago: Demand good; trend firm; supply adequate; 80% protein $132.50, sacked.

BONE MEAL (STEAMED)

Boston: Demand and supply steady; trend steady; $105, unchanged.

Cincinnati: Demand fair; trend steady; supply good; $100, sacked, Cincinnati, unchanged.

Ft. Worth: Demand fair; trend steady; supply scarce; sacked: domestic $100, f.o.b. Ft. Worth, unchanged.

Seattle: Demand fair; trend steady; supply good; $92, f.o.b. car Seattle, sacked, unchanged.

Los Angeles: Demand good; trend steady; supply ample; imported $80, 20 ton lots, sacked, unchanged.

Chicago: Demand and supply fair; trend unchanged; $97.50, sacked.

Denver: Demand slow; trend steady; supply ample; $108, unchanged.

Buffalo: Demand and trend steady; supply fair; $105, sacked, f.o.b. Buffalo, unchanged.

BREWERS DRIED GRAINS

Boston: Demand good; trend firm; supply spotty; $46, up 50¢.

St. Louis: Demand good; trend firmer; supply adequate; 26% protein $38, up $1.50.

Cincinnati: Demand poor; trend steady; supply adequate; $47, up $1.

Ft. Worth: Demand slow; trend steady; supply sufficient; 26% protein $53, sacked, September, unchanged.

Los Angeles: Demand good; trend steady; supply adequate; $50, unchanged.

Chicago: Demand fair; trend $1 lower; supply adequate; 26% protein $35.50.

Buffalo: Demand and supply fair; trend steady; $46, Boston, unchanged.

BREWERS DRIED YEAST

Boston: Demand and supply steady; trend steady; 11¢ lb., unchanged.

Cincinnati: 9@10¢ lb., sacked, unchanged.

Seattle: Demand slow; trend steady; supply ample; $12 cwt., sacked.

St. Louis: Demand fair; trend firm; supply ample; 9½@10¢ lb., carlots, sacked; 10½¢ lb., ton lots; 11½¢ lb., less than ton lots.

Chicago: Demand fair; trend steady; supply ample; 9½@10¢ lb., carlots, sacked; 9¾@12½¢ lb., l.c.l.

Los Angeles: Demand good; trend steady; supply adequate; 10¢ lb., 5 ton lots, sacked; 11¢ lb., 1 ton lots, sacked; 12¢ lb., less than ton lots, sacked; all unchanged.

Buffalo: Demand light; trend steady; supply tight; $8.85 cwt., f.o.b. Buffalo, unchanged.

CALCIUM CARBONATE

Cincinnati: Demand fair; trend steady; supply adequate; $7@7.50 cwt., unchanged.

Ft. Worth: Demand normal; trend steady; supply sufficient; $7.50, sacked, f.o.b. north Texas, unchanged.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, sacked.

Chicago: Demand fair; trend steady; supply ample; fine grind, plain, 100 lb. bags $9.54; bulk, in hopper cars $7.54; bulk in boxcars $8.05; granular grind $1 premium.

Minneapolis: Fine grind, 50 lb. bags $13.75; 100 lb. bags $13; bulk, boxcar $11.50; bulk, hopper $11; coarse grind $1 premium, delivered Minneapolis.

Los Angeles: Demand fair; trend steady; supply adequate; flour $9.85, 20 ton cars, sacked; meal $10.20, 20 ton cars, sacked; both unchanged.

Denver: Demand fair; trend steady; supply ample; $12.50, carload, unchanged.

COCONUT OIL MEAL

Seattle: Demand fair; trend steady; supply ample; solvent type $71, f.o.b. car Seattle, sacked, unchanged.

Los Angeles: Demand slow; trend steady; supply moderate; copra cake $65, unchanged.

Portland: Demand slow; trend steady; supply adequate; 20% solvent $65.20.

CONDENSED FISH SOLUBLES

Boston: Demand and supply steady; trend firm; tank cars $45, unchanged.

Los Angeles: Demand good; trend steady; supply adequate; 3½¢ lb., unchanged.

Denver: Demand fair; trend steady; supply ample; 3¢ lb., West Coast, f.o.b., unchanged.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are bulk basis, sacked basis $6 more)

Minneapolis: Feed $41.70, meal $74.70.
Atlanta: Feed $45.40, meal $78.10.
Birmingham: Feed $42.90, meal $75.90.
Boston: Feed $46.60, meal $79.60.
Chicago: Feed $35, meal $68.
Cleveland: Feed $43, meal $76.
Denver: Feed $48.30, meal $78.30.
Ft. Worth: Feed $45.80, meal $76.80.
Indianapolis: Feed $40.25, meal $73.25.
Kansas City: Feed $35, meal $68.
Louisville: Feed $41.55, meal $74.55.
New York: Feed $46.20, meal $79.20.
New Orleans: Feed $45, meal $78.
Norfolk: Feed $45.60, meal $78.60.
Philadelphia: Feed $45.80, meal $78.80.
St. Louis: Feed $35, meal $68.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $42, unchanged.

COTTONSEED OIL MEAL

St. Louis: Demand slow; trend easier; supply limited; 41% solvent process $67.

Memphis: Demand fair; trend steady; supply tight; prime 41% protein old process $66, up $1.50; new process 41% protein $66, up $1.50.

Cincinnati: Demand poor; trend steady; supply adequate; $69, down $1.10.

Ft. Worth: Demand fair; trend steady; supply inadequate; 41% old process $60, f.o.b. mills Ft. Worth, unchanged; solvent $61, September; pellets $2 additional.

Seattle: Demand good; trend steady; supply ample; 41% expeller $69, f.o.b. car Seattle, unchanged.

Los Angeles: Demand moderate; trend fairly steady; supply limited; $58@59, unchanged to $1 lower.

Kansas City: Demand slow; trend steady; supply ample; 41% old process $64.50@65, up $1; 41% solvent process $65.50, up $1.

Portland: Demand slow; trend lower; supply ample; 41% solvent $69.20.

Chicago: Demand quiet; trend down $1; supply ample; Memphis basis, hydraulic $65.

Atlanta: Demand good; trend steady; supply limited; 41% $61, f.o.b. Georgia producing plants.

Buffalo: Demand poor; trend steady; supply fair; $85.20, sacked, Boston, unchanged.

Denver: Demand fair; trend steady; supply ample; $63, unchanged.

CURACAO PHOSPHATE

New York: Minimum 14% phosphorus $43.50 sacked, $40.50 bulk, f.o.b. New Orleans, Jacksonville and Philadelphia.

DEFLUORINATED PHOSPHATE

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; guaranteed uniform analysis; carload $61.25, sacked, 100 lb. multiwall bags, bulk $58.25; truck load $62, sacked, in 100 lb. multiwall bags, bulk $59, f.o.b. Coronet, Fla.

Tupelo, Miss.: Minimum phosphorus 14%, minimum calcium 28%, maximum fluorine .14% $52, f.o.b. Tupelo in 100 lb. multiwall bags, $49 bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum 36%, maximum fluorine .18% $66 (or $3.67 per unit of P), f.o.b. Wales in 100 lb. multiwall bags, $3 less in bulk.

Butte, Mont.: Minimum phosphorus 18%, minimum calcium 32%, maximum calcium 36%, minimum fluorine .18% $81 (or $4.50 per unit of P), f.o.b. Butte, 100 lb. multiwall bags; bulk $78; truck lots of less than 10 tons $10 more, bagged or bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $69.35 net ton, f.o.b. Houston, 100 lb. multiwall bags; $66.35 bulk ($3.65 per unit of P).

Cincinnati: 18% phosphorus, carlots $74.30, ton lots $84.30; 14% phosphorus, carlots $62.50, ton lots $72.50; Cincinnati, unchanged.

Ft. Worth: Demand normal; trend steady; supply adequate; minimum 18¼% phosphorus, maximum 31% calcium, maximum .18% fluorine $76.25, down 40¢.

DICALCIUM PHOSPHATE

Trenton, Mich.: 18½% P $33, bulk, boxcar/hopper car; $86, bagged, in less than carload lots; 21% P, $94.05, bulk, boxcar/hopper car; $97.65, bagged, in carlots or truck loads; $107.65, bagged, less than carload; all prices f.o.b. Trenton, freight equalized with nearest producing point.

Chicago: Bulk, carlots and truck loads, 18½% phosphate $78 and 21% phosphate $89; packed in 100 lb. papers, 10 tons or more, 18½% phosphate $81 and 21% $92; lesser quantities, 18½% phosphate $91 and 21% $102; above prices per ton, f.o.b. Chicago Heights, Ill., or Nashville, Tenn.

Bonnie, Fla.: Minimum phosphorus 18½%, granular, $81 (or $4.38 unit of P), freight equalized from nearest producing point, carload basis; bulk carloads $3 less; in truck loads of less than 10 tons, $10 more. Western slope prices, for delivery at established railroad stations and by truck at regular feed mixing plants: California, Arizona, Nevada and Utah, $99.90; Washington, Oregon, Montana and Idaho, $107.15; bulk carloads $3 less; truck loads less than 10 tons, $10 more.

Columbia, Tenn.: Minimum phosphorus 18.5%, minimum calcium 24% $81, f.o.b. Columbia, in 100 lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Texas City, Texas: Minimum phosphorus 18.5%, minimum calcium 20%, maximum calcium 23%, maximum fluorine .12%; carload and truck load $75.50, sacked, in 100 lb. multiwall bags, bulk $72.50, f.o.b. Texas City.

Los Angeles: Demand slow; trend steady; supply adequate; 18½% phosphorus $95.10, sacked, unchanged.

Cincinnati: 18½% phosphorus $88.80, bagged in carloads; $98.70 in ton lots, f.o.b. Cincinnati; $81, f.o.b. production points, unchanged.

Ft. Worth: Demand fair; trend steady; supply adequate; $81.50, sacked, unchanged.

Seattle: Demand good; trend steady; supply limited; $91, ex-dock Seattle, sacked, unchanged.

Buffalo: Demand and supply good; trend steady; $82.90, sacked, Boston, unchanged.

Denver: Demand good; trend steady; supply ample; $88.50, unchanged.

DISTILLERS DRIED GRAINS

Boston: Demand steady; trend about steady; supply ample; $55, unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; $58, unchanged.

Seattle: Demand good; trend firm; supply nil; $71, delivered truck lots, sacked, unchanged.

Buffalo: Demand and supply fair; trend steady; $54, Boston, unchanged.

DRIED BEET PULP

Boston: Demand slow; trend steady; supply ample; $61.20, unchanged.

Seattle: Demand fair; trend steady; supply ample; $48, delivered carlots, sacked, unchanged.

Los Angeles: Demand and trend steady; supply adequate; $46, unchanged.

Portland: Demand slow; supply light, but adequate; trend unchanged; $47.58, sacked.

Buffalo: Demand fair to good; trend lower; supply adequate; $53, sacked, new crop, Boston.

Atlanta: Demand fair; trend steady; none available; $58.01, sacked, delivered October-November-December.

Denver: Demand light; trend steady; supply short; $60, unchanged.

DRIED BUTTERMILK

Boston: Demand light; trend steady; supply adequate; 14¢ lb., unchanged.

Los Angeles: Demand fair; trend firm; supply light; 13¾@14¢ lb., sacked, unchanged.

Chicago: Demand quiet; trend steady; supply fair; medium acid $9.75@10.25 cwt., sweet cream $9.75@10.25 cwt., both sacked.

Buffalo: Demand fair; trend steady; supply adequate; $10.60 cwt., f.o.b. Buffalo, unchanged.

DRIED CITRUS PULP

Boston: Demand fair; trend steady; supply adequate; $53, sacked, unchanged.

Los Angeles: Demand and trend steady; supply light; orange pulp $43, lemon pulp $40@41; both unchanged.

Atlanta: Demand fair; trend steady; supply good; pulp $35, sacked; meal $32.50, sacked; both f.o.b. Florida processing plants.

Buffalo: Demand fair; trend steady to lower; supply good; $34.50, sacked, f.o.b. Florida points, off 50¢.

DRIED SKIM MILK

Boston: Demand good; trend firm; supply spotty; 13½¢ lb., unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; 12@13¢ lb., sacked, unchanged.

Ft. Worth: Demand slow; trend steady; supply sufficient; $16.25 cwt., sacked, unchanged.

Los Angeles: Demand slow; trend steady; supply adequate; 14¢ lb., less than ton lots, sacked; 13¾¢ lb., ton lots, sacked; both unchanged.

Chicago: Demand slow; trend steady; supply ample; $11.50@12 cwt., sacked.

Buffalo: Demand and trend steady; supply adequate; spray $11.50 cwt., f.o.b. Buffalo, unchanged.

DRIED WHEY

Cincinnati: Demand fair; trend steady; supply adequate; $5.75 cwt., sacked, unchanged.

Boston: Demand and supply steady; trend steady; $4.85 cwt., carlots, unchanged.

Ft. Worth: Demand slow; trend steady; supply adequate; standard $4.75, sacked, truck or rail, delivered Ft. Worth; small lots $5.25, f.o.b. warehouse Ft. Worth, unchanged.

Seattle: Demand steady; trend easy; supply good; $5.70 cwt., ex-warehouse, l.c.l., unchanged.

Minneapolis: Demand good; supply tight; price unchanged at $4.75 cwt., f.o.b. shipping points.

Los Angeles: Demand fair; trend steady; supply adequate; $5.10 cwt., carloads, sacked; $5.25 cwt., l.c.l., sacked; both unchanged.

Kansas City: Demand fair; trend steady; supply ample; $4.50 cwt., sacked, unchanged.

Chicago: Demand slow; trend firm; supply fair; $4.80@5 cwt., sacked.

Denver: Demand and trend steady; supply ample; $5.25 cwt., truckload, unchanged.

FEATHER MEAL (HYDROLYZED)

Boston: Demand very good; trend firm; supply tight; $98.50, nominal, unchanged.

Memphis: Demand good; trend fully steady; supply barely adequate; 85% meal $102.50, down 50¢.

Ft. Worth: Demand and trend steady; offerings slightly increased; 85% protein $95@96, sacked, delivered Ft. Worth, unchanged.

Los Angeles: $1 a unit of protein, sacked; nominal only.

Atlanta: Demand good; trend steady; supply short; $90, f.o.b. Alabama and Georgia production points.

FISH MEAL

Seattle: Demand good; trend steady; supply fair; $1.90 a unit protein, ex-dock, Seattle, sacked (Alaskan production), unchanged.

Ft. Worth: Demand good; trend steady; supply sufficient; sacked: 65% protein Peruvian $124, 60% new crop menhaden $127.50, both unchanged.

Boston: Demand good; trend firm; supply light; white fish 60% $116, unchanged; red fish quotation withdrawn.

Cincinnati: Demand fair; trend steady; supply adequate; $113.10, down 80¢.

Los Angeles: Demand and trend steady; light offerings; local production, 60% protein $1.85@1.90 a unit, unchanged.

Minneapolis: Demand only fair; supplies less than ample; prices unchanged from last week; Canadian herring $1.85 a unit, f.o.b. West Coast, subject to production; 60% West Coast blended $14 ..

Portland: Demand fair; trend steady to firm; supply tight; $2@2.05 a protein unit, sacked.

Chicago: Demand only fair; supply ample; trend a little higher; menhaden, East Coast $116@118, Gulf $116@118; scrap, East Coast $112@114 and Gulf $112@114; Canadian herring $1.70 a unit of protein.

Atlanta: Demand good; trend steady; supply limited; 60% menhaden $115@116, sacked, f.o.b. Atlantic and Gulf ports.

Buffalo: Demand light; trend higher; supply improving; 60% protein menhaden $130, f.o.b. Buffalo, cwt., sacked.

Denver: Demand good; trend steady; supply short; $1.85 a protein unit, West Coast, unchanged.

HOMINY FEED

Seattle: Demand fair; trend steady; supply limited; $54, delivered carlots, sacked, unchanged.

Boston: Demand good; trend firm; supply adequate; $49, up $1.50.

St. Louis: Demand slow; trend steady; supply ample; yellow $39.50, off $1.

Cincinnati: Demand fair; trend steady; supply adequate; $41, unchanged.

Los Angeles: Demand good; trend steady; supply fair; hominy meal $50, hominy pellets $52, both unchanged.

Kansas City: Demand slow; trend weaker; supply ample; white or yellow $32.50@33, down $1.

Chicago: Demand slower; trend off $1; supply fair; $37.

(Turn to QUOTES, page 106)

Major Markets Roundup

Soybean Meal Sags; Other Ingredients Steady

What happened to the price of soybean oil meal this week carved a contrasting development in otherwise quiet ingredient trading.

Bean meal prices sagged $5 and more in major markets. Most of this depression came from the Galvin estimate of more than 738 million bushels of beans to be harvested this fall. Observers are confident that current supplies will take care of demand until the new crop comes on—and from there on supplies are expected to be ample for crushing and export.

Millfeed prices showed some improvement, mostly because of strike developments in eastern flour mills and because lighter flour production is expected, since some foreign commitments have been satisfied.

Other ingredients remained firm but unchanged in price.

East

BOSTON: The local millfeed market has been practically stationary as far as price fluctuations are concerned. The few grains that did show any price change generally moved upward, but the advances on the whole were not too impressive.

Soybean meal experienced another period of price unsettlement, losing most of the sharp advance of the preceding week.

Pasture conditions remained relatively fair to good, a situation that tends to restrain trade dealings.

BUFFALO: Soybean oil meal, brave last week with a $4 gain, retreated $5.50 in the latest period as buyers faded with the rise. Other ingredients were generally steady to lower as dealings continued slow.

Cash corn was off 1-1½¢. Oats were about steady and barley and feed wheat were unchanged.

Linseed oil meal backed down $1, but cottonseed oil meal held steady despite poor demand.

Gluten meal also was unchanged but it is expected to head lower.

Fish meal rose $5 in a fairly firm market, but meat scraps were just able to hold steady.

Brewers grains, distillers grains, hominy and gluten feed were unchanged. Alfalfa meal declined $1.

Bran and middlings edged 50¢ higher, but red dog was off 50¢. Flour mills operated at capacity levels without labor contracts as union and management negotiations remained stalemated. Demand for millfeeds was seasonally fair, with more interest shown in middlings. The sacked differential on bran and middlings held steady at $8.

Midwest

CINCINNATI: The feed ingredient market got off to a very slow start for the early fall season after the Labor Day week end. Demand for manufactured feeds is always light during this period of the season, and is considered normal, but the overproduction of poultry and the abundance of feeds in farm lots have caused a much lighter demand for manufactured feeds than has been experienced during the past several years.

Price adjustments upward included tankage, $2.50; alfalfa meal and brewers dried grains, $1, and bran, 50¢. Adjustments downward were led by soybean oil meal, $4-5; meat scraps, $1.50. Lighter adjustments downward included cottonseed oil meal, $1.10; fish meal, 80¢, and linseed oil meal and middlings, 50¢.

CHICAGO: Soybean meal prices really took it on the chin this week. The break was one of the most severe in a long while; 44% meal dropped $6@8 ton for unrestricted billing. ETL fell, too, but not to a commensurate degree; quotes were off about $4 ton. On 50% protein content, at $72.50 for unrestricted, there was a selloff of $4.50@6 for the week and $5 lower for the eastern trunk line billing.

Normally, there would have been some selloff as the trade edges closer to working on a new crop basis, but when the Galvin crop estimate came through with a prospective crop of 738 million bushels (and some inclined to feel that it may be even larger in the final analysis), the bottom had no choice but to fall out of the market. Current price levels are the lowest since late June.

Intimations from Washington to the effect that USDA officials are anticipating that of the two products, oil will have to carry the mail for the meal. This naturally made everyone feel that meal can become a drug on the market in the event that we harvest 180 million bushels more beans than in 1960. This would mean that the output of meal for the 1961-62 season would be 4,230,000 tons larger than during the season now drawing to a close. Of course, everyone knows that a terrifically large percentage of the crop will go into government loan, but it's going to have to come out some time—soybeans are good only for two main things, processing and exporting.

MINNEAPOLIS - ST. PAUL: Feed ingredient prices in this market were generally unchanged this week except for slightly stronger millfeeds and reductions for soybean and linseed meal.

Soybean meal traded lower—about $2—at most markets, reflecting the softness in futures trading. Buyers were said to be limiting orders to nearby needs. Observers said there will be enough soybeans to go around until the new crop starts to move. And dealers noted that processors will not want to be crushing large amounts of beans at the end of the season with new crop meal selling at a discount of $14 under the spot level.

Linseed meal sales were reported to be a bit slower than the week before and prices dropped off $1 or so.

Millfeeds output apparently was fairly heavy during the week, but some observers said they expect light production because some of the mills' flour export commitments have been satisfied. This feeling improved millfeed prices slightly.

ST. LOUIS: A good upturn in millfeed prices and a sharp decline in soybean meal held the spotlight in the feed ingredient market last week. Other items were generally neglected and held to narrow changes in quiet trading.

The attractive prices on millfeeds early in the week encouraged mixers to do some inventory rebuilding and take on a portion of forward needs. The possibility of a further reduction in flour mill grind was a factor in their buying.

Sellers noted quite a little interest in soybean meal, but there was more talk than trade. There was not too much meal around for nearby shipment; however, prospective buyers didn't appear to be very concerned. The belief persisted that there would be enough to go around, and there was no need to rush in and pay the substantial premium asked for old crop meal.

Farm Commodity-Feed Price Ratios

	U.S.	New Eng.	Mid-Atl.	East North Cent.	West North Cent.	South Atl.	East South Cent.	West South Cent.	Mount.	Pac.
CHICKEN-FEED— Farm Chickens:										
August, 1961	2.8	2.9	4.0	3.0	2.3	3.1	3.3	3.1	2.9	2.1
July, 1961	2.9	2.9	4.0	3.1	2.3	3.2	3.3	3.0	2.3	2.1
August, 1960	3.6	4.0	4.5	3.9	3.4	3.7	3.6	3.4	3.4	3.0
Average (1950-59)	5.0									
Average (Aug., 1950-59)	4.9									
Broilers:										
August, 1961	2.8	3.0	3.5	3.1	2.9	2.7	2.6	2.7	3.2	3.0
July, 1961	2.7	3.0	3.6	3.0	3.1	2.6	2.5	2.5	3.4	2.9
August, 1960	3.6	3.9	4.5	3.8	3.8	3.5	3.4	3.5	4.0	4.2
TURKEY-FEED—										
August, 1961	5.8	7.3	7.8	6.0	6.6	5.5	5.9	5.9	6.1	5.2
July, 1961	5.7	7.3	7.7	5.9	6.3	5.2	5.8	6.1	6.0	5.2
August, 1960	7.2	7.9	8.5	7.2	8.7	6.5	6.9	7.0	7.1	6.2
Average (1950-59)	8.0									
Average (Aug., 1950-59)	7.7									
EGG-FEED—										
August, 1961	10.3	13.1	11.4	10.0	9.8	10.3	11.0	10.4	10.6	8.9
July, 1961	10.0	12.6	11.2	9.8	9.5	10.2	10.8	10.2	10.4	8.5
August, 1960	10.3	14.3	12.0	9.3	9.0	11.3	10.4	10.2	10.7	9.1
Average (1950-59)	10.7									
Average (Aug., 1950-59)	10.9									

	U.S.	North Atl.	East North Cent.	West North Cent.	South Atl.	South Cent.	West
MILK-FEED—							
August, 1961	1.43	1.38	1.42	1.53	1.57	1.46	1.31
July, 1961	1.37	1.31	1.35	1.47	1.56	1.41	1.29
August, 1960	1.41	1.40	1.36	1.50	1.54	1.45	1.32
Average (1950-59)	1.31						
Average (Aug., 1950-59)	1.28						
BUTTERFAT-FEED—							
August, 1961	25.2	...	20.8	26.9	...	17.0	18.7
July, 1961	24.6	...	20.6	26.2	...	16.9	18.7
August, 1960	24.3	...	20.0	26.6	...	16.6	18.6
Average (1950-59)	22.4						
Average (Aug., 1950-59)	21.8						

	U.S.	North Cent.
HOG-CORN—		
August, 1961	16.5	16.9
July, 1961	15.7	16.0
August, 1960	15.2	15.5
Average (1950-59)	13.7	14.1
Average (Aug., 1950-59)	13.9	14.2

NOTE: Ratios computed at mid-month by U.S. Department of Agriculture. Ratios represent number of pounds of poultry feed equal in value to 1 lb. live farm chicken, turkey or 1 doz. eggs; pounds broiler growing mash equal to 1 lb. broiler; pounds concentrate rations equal to 1 lb. milk or butterfat; bushels of corn equal to 100 lb. hog. Increases in ratios are favorable to the feeder

KEY TO GEOGRAPHICAL DIVISIONS

Here is a guide to the states included in the geographical divisions listed in the accompanying commodity-feed price ratios:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Mid-Atlantic: New York, New Jersey, Pennsylvania.

North Atlantic: New England and Mid-Atlantic states combined.

East North Central: Ohio, Indiana, Illinois, Michigan, Wisconsin.

West North Central: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.

North Central: Combination of the two foregoing.

South Atlantic: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.

East South Central: Kentucky, Tennessee, Alabama, Mississippi.

West South Central: Arkansas, Louisiana, Oklahoma, Texas.

South Central: Combination of the two above.

Pacific: Washington, Oregon, California.

Mountain: Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Montana.

West: Combination of the two above.

South

MEMPHIS: It appeared this week that mixed feed business is about to pick up seasonally in the Memphis territory. The upturn is close at hand, brokers said.

Meanwhile, prices of ingredients wove an irregular pattern, with the demand generally fair.

The end of the alfalfa crop is drawing near. As a result, a better demand is likely to develop, which in turn could put prices higher for alfalfa meal.

Animal proteins, as well as animal greases, continue on a hand-to-mouth basis with most buyers. The outlook for a tremendous soybean crop just around the corner, said a broker, has had a depressing effect on buyers.

Blackstrap molasses prices held about even with those of a week ago. Some signs of improvement were seen, one dealer said. Another indicated that molasses should remain on virtually its current level the rest of the year.

Soybean Meal Off

Demand for mixed feed ingredients was spotty; soybean oil meal prices weakened. Cash soybean oil meal, which made an $8 per ton rise the week before, declined following this fast upswing. The trade had bought considerable meal in anticipation of short supplies until new crop soybeans are available for crushing.

Some forecasts that new crop soybeans would be harvested earlier than expected tended to ease demand and prices.

Cottonseed oil meal was strong for nearby shipment, with virtually no Memphis production. This meal continued to be supplied from the Southwest and West.

Futures

Oilseed meal futures closed irregular Sept. 5 on the Memphis Board of Trade, compared with a week earlier.

Unrestricted soybean oil meal, in view of the decline is cash demand and lower prices, eased $1.25-$3 ton. Bulk cottonseed oil meal ended unchanged to 50¢ higher.

Trading volume for the period amounted to 2,400 tons of unrestricted soybean oil meal.

Southwest

KANSAS CITY: Feed ingredient prices were irregular this week with most items unchanged to moderately higher and soybean meal and molasses lower.

Soybean meal was off $4-5 for the week. Supplies were not burdensome but buyers confined purchases to nearby needs only due to the proximity of new crop beans. Cash trading of new crop soybean meal was virtually at a standstill.

Cottonseed meal was in better demand and prices worked about $1 higher out of the Texas market.

Millfeeds marked up advances of $1-2 on a confirmation of slower flour grind and better mixed feed business. Sacked millfeeds were in tight supply with mixed flour cars going out heavier than normal with feed.

Dehydrated alfalfa pellets are still being discounted as much as $4 under prices of major blenders, however there was a faint undertone of strength as the supplies of cheap pellets were being well cleaned up.

FORT WORTH: Demand for feed

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SMALL'S DEHYDRATED ALFALFA MEAL

ingredients continues very slow with the exception of a few proteins in scarce supply. Soybean meal slipped $1.50 from the previous week, but millfeed gained $1@$2. Other quotations were generally unchanged.

West

SEATTLE: Soybean meal prices advanced about $3 ton for prompt shipment during the week. New crop was unchanged at $77.10 for October-November-December. Cottonseed meal remained unchanged at $69, bulk, but was reported in good demand. New crop was being quoted at virtually the same figure. Montana linseed oil meal was finally being offered for early October shipment at $89, coast. Alaskan herring meal was unchanged at $1.90 per unit of protein, dock, Seattle, with new crop Canadian herring meal offered at $1.80-1.90, f.o.b. truck, Vancouver, B.C.

PORTLAND: Local feed market trading was seasonally slow during the post-holiday period with prices averaging lower. Trade sources here reported that trading lagged, due in part to the long holiday week end and to some cutbacks in feeding activity.

Supplies of most feed ingredients appeared plentiful and buying interest for most items remained on an "as needed" basis.

Soybean and cottonseed meal listings declined as much as $3 ton under a slow demand for moderate resale offerings. Animal protein feed listings averaged easier with meat and bone meal prices carrying a soft undertone.

Wheat millfeed quotations remained under pressure because of heavy production but larger sales to California outlets and a firmer holding tendency on the part of local mills provided a steadying influence.

Alfalfa meal quotations were barely unchanged to easy in the face of ample offerings. Trading of whole feed grains featured $1.75 ton decline for corn and a weakening of milo prices.

Portland and Seattle alfalfa hay quotations continued to hold unchanged in front of a moderate demand for the plentiful supplies. Rain showers at the close of the week checked Western Oregon and Washington drying conditions and made for improved prospects for early fall pasturage.

Other Reports

MOLASSES: Corn molasses (hydrol) shipments in June totaled 2.1 million gallons compared with 1.9 in May and 1.8 million shipped in June last year, the U.S. Department of Agriculture reports. This brings shipments of hydrol during January-June, 1961, to 12 million gallons, up from the 10.5 million in the same months a year earlier.

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QUOTES

(Continued from page 1)

LINSEED OIL MEAL

Ft. Worth: Demand slow; trend steady; supply moderate; 34% protein, extracted $71.70, September, unchanged.

Seattle: Demand fair; trend steady; supply limited; 34% protein (Montana) $89, delivered carloads, sacked, up $4.

Boston: Demand and supply light; trend steady; 32% $76.20, unchanged.

Cincinnati: Demand poor; trend steady; supply adequate; new process $56, down 50¢; old process $61.50, down 50¢; Minneapolis.

Los Angeles: Demand slow; trend steady; supply light; local production, 31% protein $71, unchanged.

Minneapolis: Demand fair; supply adequate; 34% solvent down $1 from last week to $54.50; 32% expeller down 50¢@$1 to $60@60.50.

Portland: Demand dull; supply limited; trend unchanged; 34% solvent $87.80, sacked.

Chicago: Demand fair; trend 50¢@$1 lower; supply adequate; Minneapolis basis: solvent $55, expeller $61.

Buffalo: Demand fair; trend steady to lower; supply fair to good; $54.50, Minneapolis, off $1.

Denver: Demand fair; trend steady; supply ample; $69, unchanged.

MEAT & BONE MEOAL ⅛.. ⅛.. ⅛....

Buffalo: Demand and supply light; trend steady; 50% meat scraps $87.50, f.o.b. Buffalo, unchanged.

Denver: Demand good; trend steady; supply short; $92.50, unchanged.

MEAT AND BONE MEAL

St. Louis: Demand fair; trend easier; supply ample; 50% $93, down $1.

Boston: Demand and supply steadier; trend unsettled; $1.40 a protein unit; converted, 50% $87; both unchanged.

Memphis: Demand fair; trend barely steady; supply adequate; 50% protein $89, without billing; 50% protein $92, with rail transit; both unchanged.

Seattle: Demand good; trend steady; supply ample; $1.75 a unit protein, ex-processing plant, sacked, unchanged.

Ft. Worth: Demand slow; trend steadying; supply sufficient; meat and bone $90 bulk, $93 sacked, f.o.b. Ft. Worth, unchanged.

Cincinnati: Demand good; trend firmer; supply fair; 50% meat and bone scraps $86, Cincinnati, down $1.50.

Kansas City: Demand fair; trend steady; supply tight; 50% $95@97.50, unchanged.

Los Angeles: No improvement in demand; trend fairly steady; supply increased; 50% protein $1.75 a unit, unchanged to 5¢ lower.

St. Paul: Demand fair; supply ample; price unchanged at $98@102.

Portland: Demand fair; trend easier; supply adequate; 50% $85, sacked.

Chicago: Demand fair; trend firm; supply ample; 50% protein $97.50, sacked.

MEXICAN PHOSPHATE

Brownsville, Texas: Mexican natural ground rock; 13% phosphorus $39 sacked, bulk $2 less.

MILLFEED

Minneapolis: Mill grind heavy, but light production expected because some foreign commitments have been satisfied; bran and middlings prices unchanged, red dog stronger; demand generally fair; supply ample; bran steady at $34@34.50, sacked; middlings steady at $33.50@34, sacked; red dog up 50¢@$1 to $39, sacked.

Kansas City: Demand good; trend stronger; supply of bulk adequate, sacked tight; sacked bran $33@33.50, up $1.50; sacked shorts $36@36.50, up $1; bulk bran $28@28.50, up $1.50; bulk shorts $29@29.50, up $2; bulk middlings $28@28.50, up $1.50.

Ft. Worth: Demand good; trend firm; offerings light for immediate shipment; bran, bulk $36, burlaps $42; gray shorts, bulk $37, burlaps $44.50; middlings, bulk $36.50, delivered Texas common points; bran up $2, shorts up $1@1.50, middlings up $1.

Chicago: Demand slow; trend irregular; supply ample; standard bran $30.50, standard midds. $32, red dog $35.

St. Louis: Demand good; trend firm; supply ample; sacked, bran $38.25, up $2; shorts $41.25, up $1.50; bulk bran $32.50, up $2; middlings $33, up $1.50.

Cincinnati: Demand fair; trend steady; supply adequate; bran $34.50, up 50¢; middlings $35.50, down 50¢.

Boston: Demand improved; trend steadier; supply adequate; bran $38.50, up $1.40; middlings $41.60, up $1.50.

Buffalo: Demand and supply fair; trend steady to lower; bran $30, unchanged; middlings $33.50, up 50¢; red dog $34.50, off 50¢; all prices f.o.b. Buffalo.

Memphis: Demand fair; trend slightly higher; supply ample; wheat bran $35.30, up $1.50; gray shorts $36.30, up $1.50; standard midds. $35.80, up $2.

Denver: Demand good; trend steady; supply limited; shorts $39.75, up 50¢; bran $36.75, up 75¢; millrun $38.25, up 25¢.

Seattle: Demand fair; trend easy; supply good; $34, delivered common transit points, carlots, down $1.

Portland: Demand fair; trend steady; supply ample; $32@33, sacked.

Los Angeles: Standard millrun $40.50@$41.50, better demand, stronger trend, tighter supplies, up $2; red bran $45.50@46.50, fair demand, stronger trend, adequate supplies, $2@2.50 higher.

MOLASSES

Boston: Demand seasonal; trend firm; supply steady; 16½¢ gal., tank cars, unchanged.

St. Louis: Demand slow; trend easier; supply ample; blackstrap 14¼¢ gal., tank cars, New Orleans, unchanged.

Memphis: Demand fair; trend steady; supply ample; blackstrap 14½¢ gal., tank car, f.o.b. New Orleans; $30.59 ton, delivered, Memphis, truck; both unchanged.

Ft. Worth: Demand fair; trend steady; supply sufficient; blackstrap 14½¢ gal., f.o.b. Houston; truck $31.49, delivered Ft. Worth, seller's market price on date of shipment, unchanged.

Seattle: Demand fair; trend firm; supply good; $28.75, f.o.b. Seattle, tank truck lots, up $1.

Cincinnati: Demand fair; trend steady; supply adequate; 14½¢ gal., New Orleans, unchanged.

Minneapolis: No change in price from last week; $35 for blackstrap, tank truck, delivered; $31 for beet; $32 for blend.

Los Angeles: Demand good; trend steady; supply ample; $25.50, f.o.b. tank cars; $25.75, f.o.b. tank trucks; both unchanged.

Kansas City: Demand slow; trend steady to weaker; supply ample; 14¾¢ gal., New Orleans, down ¾¢.

Buffalo: Demand fair; trend steady; supply adequate; 16½¢ gal., f.o.b. Albany, unchanged.

Atlanta: Demand fair; trend steady; supply limited; citrus $20, f.o.b. Florida processing plants.

Denver: Demand fair; trend steady; supply ample; $33.70, tank cars, unchanged.

OAT PRODUCTS

Cincinnati: Demand poor; trend steady; supply adequate; pulverized white oats $44@51, unchanged.

Seattle: Demand fair; trend steady; supply good; oat feed $51, delivered truck lots, 38 lb. or better, unchanged.

Ft. Worth: Demand slow; trend steady; supply sufficient; 10% protein oat millfeed $42.90, sacked, unchanged; reground $22.30@23.80, sacked, unchanged.

Boston: Demand and supply steady; trend unsettled; white pulverized $54, reground oat feed $22.50, both unchanged.

St. Louis: Demand slow; trend firm; supply ample; white pulverized $44, unchanged; reground oat feed $12.50, up 50¢.

Minneapolis: Prices pushed upward by stronger oats market; demand good; supply tight; sacked feeding rolled $83, up $2; sacked feeding oatmeal $86, up $1; sacked pulverized $45.50, up 50¢; sacked crimped $46, up $2; sacked oat feed steady at $17.

Kansas City: Demand fair; trend steady; supply ample; oat mill by-prdouct $16@16.50, sacked, unchanged; feeding rolled oats $73@73.50, sacked, down 50¢.

Chicago: Demand fair; trend steady; supply adequate; reground oat feed $10@11; No. 1 fine ground feeding oatmeal $72; feeding rolled oats $73@77.

PEANUT OIL MEAL

Los Angeles: $79, sacked, nominal only.

POULTRY BY-PRODUCTS

Ft. Worth: Demand good; trend steady; supply very scarce; $100@105, sacked, f.o.b Texas plants, unchanged.

Boston: Demand active; trend firm; supply tight; $100, nominal, unchanged.

Memphis: Demand fair; trend steady; supply adequate; 55% meal $96.50, sacked, unchanged.

Los Angeles: Demand good; trend easier; supply more available; $1.55 a unit of protein, sacked, down 5¢.

Atlanta: Demand good; trend steady; supply good; meat meal $87, f.o.b. Alabama and Georgia production points.

RICE BY-PRODUCTS

Ft. Worth: Demand fair; trend steady; new crop rice bran $35, f.o.b. south Texas rice mills, sacked, September delivery; hulls $2, unchanged.

Atlanta: Demand fair; trend steady; supply short; bran $44.50, sacked, delivered.

Los Angeles: Demand slow; trend weaker; supply light; California production, high fat content, bran $50, sacked, down $3.

SCREENINGS

Cincinnati: Demand poor; trend steady; supply fair; unground grain screenings $21.75, unchanged.

Minneapolis: Demand remains slow; supply ample; prices unchanged; Canadian $17; domestic lights $3@10, mediums $12@20, heavies $20@28; 15% flax screenings $42.

Los Angeles: Demand slow; trend steady; supply adequate; ground barley $35, sacked, unchanged.

Buffalo: Demand and supply fair; trend steady; ground, sacked $35.75, New York, lake and rail, unchanged; unground, bulk $28, New York, unchanged.

Chicago: Demand fair; trend steady; supply good; ground grain $30.50, Canadian $22.50.

SOFT PHOSHATE

(Sacked, delivered)

Atlanta: $20.25.
Buffalo: $25.50.
Chicago: $24.96.
Cincinnati: $23.64.
Des Moines: $25.42.
Kansas City: $25.07.
Memphis: $22.28.
Minneapolis: $26.12.
Philadelphia: $24.51.
St. Louis: $24.32.

SOYBEAN OIL MEAL

Ft. Worth: Demand good; trend strong until new crop; offerings extremely light; 44% $76.90, immediate, down $1.50; 50% $87.90.

Seattle: Demand fair; trend firm; supply ample; $91.60, delivered carlots, up $3.

St. Louis: Demand fair; trend easier; supply adequate; 44% $66, down $5.

Boston: Demand cautious; trend unsettled; supply adequate; 44% $61, off $5; 50% $71, down $3.

Memphis: Demand fair; trend steady; supply ample; prime 44% solvent $70, f.o.b. Memphis, down $1.50.

Cincinnati: Demand fair; trend lower; supply adequate; $67, Decatur, down $4@5.

Buffalo: Demand fair; trend lower; supply good; $58.50, Decatur, off $5.50.

Atlanta: Demand fair; trend weak; supply limited; 44% $75, delivered.

Denver: Demand good; trend steady; supply short; $79.50, up $4.50.

Kansas City: Demand slow; trend weaker; supply adequate; 44% solvent process $63@63.50, Decatur, down $4.

Minneapolis: Downward price trend reflects softness in futures trading; buying limited to nearby needs; observers say there will be enough soybeans to go around until the new crop starts to move; 44% down $2 to $60.50, Decatur; 50% down $2@3 to $67@68.

Portland: Demand slow; trend lower; supply ample; 44% $88.60, 50% $95.60.

Los Angeles: Demand slow; trend much weaker; supply plentiful; $88.60, down $2.50@3.

Chicago: Demand poor; trend sharply lower; supply ample; Decatur basis: 44% protein, unrestricted billing $64, E.T.L. $58.50; 50% protein, unrestricted billing $72.50, E.T.L. $66.

TANKAGE

Ft. Worth: Demand slow; trend steadying; supply sufficient; 60% digester $95, sacked, Ft. Worth, unchanged.

Cincinnati: Demand good; trend stronger; supply short; 60% digester $92.50, Cincinnati, up $2.50.

St. Paul: Demand fair; supply fair; price slightly easier at $104@106.

Kansas City: Demand fair; trend steady; supply adequate; 60% digester $92.50@95, unchanged.

Chicago: Demand and supply fair; trend steady; 60% protein $100, sacked.

UREA FEED COMPOUND

Woodstock, Tenn.: Minimum 42% nitrogen, 262% protein equivalent; $105 bagged, $99 bulk, delivered in all states east of and including New Mexico, Colorado, Wyoming and Montana.

LaPlatte, Neb., and South Point, Ohio: Minimum 42% nitrogen, 262% protein equivalent $95, f.o.b. bagged; $90, bulk, cars or trucks; freight equalized with nearest producing point.

Pryor, Okla.: Minimum 42% nitrogen, 262% protein equivalent $95 bagged, $91 bulk, f.o.b. Pryor, freight equalized with nearest producing point; $100 bagged, $96 bulk, delivered in cars or trucks to New Mexico, Colorado, Wyoming, Montana and all states to the East.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Ft. Worth: Demand good; trend steady; supply adequate; 5¾¢ lb., f.o.b. north central Texas, unchanged.

Los Angeles: Demand and trend steady; supply limited; 6¢ lb., unchanged.

TURKEYS

(Continued from page 1)

growers are marketing their flocks before they are "properly finished." It was learned that some processors are displeased with the way birds are dressing out. They say hens dress out better than toms, so they are passing up toms whenever possible in favor of hens.

Some feed men report that turkey feeding is dropping off rapidly and they believe that most birds will be marketed by October.

The U.S. Department of Agriculture reports that arrivals of turkeys into storage in major consuming centers were extremely heavy this week. This tended to press values. In-movement was reported at 6,561,000 lb., the second highest weekly gain of the season. For the same week a year ago, in-movement was 4,010,000 lb. The five-year average was 2,969,000 lb.

In Minnesota Sept. 7, live young hens went for 17-18¢ lb., and young toms were priced at 15½-16¢, significantly below what is considered cost of production.

At New York, ready-to-cook hens were mostly 1¢ lower Sept. 7 than a week earlier. Fryer-roasters were reported unchanged to ½¢ lower. Tom prices were steady to 1¢ lower.

Hatching Profitable

It was observed that the integrated operator, who may have breeder flocks and hatching as well as turkey growing operations, may escape some of the extreme losses currently experienced among some growers. A representative of a feed company which finances some phases of turkey production notes that money has been made this year in turkey egg production and hatching. It's from that point on, he pointed out, that the trouble lies.

Some feed firms which finance growers are said to stand to lose substantial sums, particularly those involved in 100% financing of poults, formula feed and grain.

Turkey-producing farmers who grow their own grain, a feed man said, would have been better off to have sold their grain for cash rather than to have gone to all the fuss of running it through turkeys. "It is a sad state of affairs," he said, "when animal protein is worth less than the feed it takes to produce it."

Because of the serious trouble some feed manufacturers have had with credit to growers, it has been said that the new turkey crop year will see more feed men growing birds themselves. This trend, it was indicated, appears most likely to take hold among manufacturers who have been involved in 100% financing.

Some say that more feed men are likely to grow their own birds on a contract basis or in their own facilities.

Under conventional financing, it is said, the feed man takes the risk but doesn't get the profit in good years.

SOYBEAN MEAL

(Continued from page 1)

and livestock product prices.

(Louis Brewster of General Mills, Inc., Minneapolis, did some figuring and found that from Oct. 1 of last year through Aug. 31 of this year, the average price for 44% meal, Decatur basis, unrestricted billing, was near $60.30.)

Crush Estimate

Dr. Hieronymus expects in the coming market year a soybean crush of 450 million bushels, a livestock population slightly larger—about 1% —than this year and a slight gain in the index of livestock and livestock product prices. While U.S. demand for meal is expected to be up in the new year, Dr. Hieronymus looks for export demand to be off some.

Dr. Hieronymus told his ASA convention audience that his bean meal forecast surprised even himself when "my calculator ground it out." He remarked, "I had expected something less in the face of a 450-million-bushel crush. But the meal market has had a tremendous growth and does not seem to have reached the end. This is a fundamentally sound market. On it is based the expanding demand for soybeans."

Based on a total supply of 700 million bushels (this is the most popular guess currently, but a story elsewhere in Feedstuffs notes that the latest private estimate slipped above the 738 million-bushel mark), Dr. Hieronymus sees a crush of 450 million bushels figuring a carry-over of 55-60 million bushels, seed and waste 35 million and exports 155 million. "This compares with a crush of about 405 million during the current year," Dr. Hieronymus noted. "It is not a large increase. The crush capacity is large enough and increases in crush on the order of 45 million bushels have occurred before."

Feeding Demand

After coming up with his crush estimate, Dr. Hieronymus submitted his views on what's ahead in the number of soybean meal-consuming animal units:

—He expects the number of cattle on feed during the year ahead to be up 2% from the year just ending.

—He looks for a 2% increase in the 1962 spring pig crop. It's already known that the fall pig crop is up from last year.

—Dairy cow numbers should be down moderately in line with the long-term trend.

—The average number of hens on feed is expected to be up about 8% because of larger chick hatchings this past spring. "This number is high in relation to trend," he said, "and I am apprehensive about it."

—The number of replacement chicks should be down moderately in response to somewhat lower egg prices.

—Dr. Hieronymus places broiler numbers for 1961-62 at the same level they were in 1960-61.

—He marks turkey numbers down 8% because of "a nearly disastrous year."

"These things," he said, "indicate a livestock population slightly larger during the year ahead. The detailed reckoning comes out to an increase of 1%."

Demand Increment

Mainly because of an upward trend in the amount of soybean meal fed per animal unit, Dr. Hieronymus predicts a demand increment greater than 1%.

"The index of livestock and livestock product prices should be just a bit higher during the year ahead," he noted. "Total production appears likely to increase less than population. General economic conditions appear to be moderately improved, and that should add to consumer demand.

"Demand for soybean meal for export will probably be less. Exports have been down during the past year. Basically, the importing countries prefer to import soybeans rather than oil and meal. But exports will be substantial. I place them at 350,000 tons."

Talking about the crop that makes soybean meal possible, Dr. Hieronymus said a 700 million-bushel crop forecast for this fall — a gain of some 25% over a year ago—"is more than the market can absorb in one year." The national soybean crop in 1960 totaled 559 million bushels.

He said it appears that the price of soybeans will remain strong through the harvest and rise into the winter. "If the pattern follows that of similar years in the past, the price will reach its peak in November or December and decline during the spring months."

Dr. Hieronymus also commented about the longer-run soybean outlook:

"Soybeans have been a tremendous success story in a troubled agricultural world during the past decade. Price supports low enough to avoid surplus accumulations have been an integral part of this success story.

"Increased price supports and deeper involvement in surplus-disposal programs for oil are rapidly drawing soybeans into the sphere of governmental domination. The opportunities to turn back are becoming more limited . . . I would like to advance the proposition that this industry would not have grown and prospered as it has, had it taken the governmental route when it was first threatened with a surplus late in 1953."

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Declining Prices For Protein Feeds Seen by Spring

URBANA, ILL.—Supplies of protein feeds will be abundant in the 1961-62 marketing year, because of the increased production of soybeans, and lower prices are expected to arrive this coming spring, says Dr. T. A. Hieronymus, University of Illinois agricultural economist, in the institution's September Livestock Outlook News.

"The price of soybean meal is apt to be highest in the fall and lowest in the spring, just the opposite of this past marketing year," he observes. "This fall many users, remembering the price rise last winter, will buy ahead. With returns from soybean oil low, as they likely will be, processors will put upward pressure on meal prices.

"High meal prices in the fall will tend to reduce use, allowing prices to decline in the spring.

"The U.S. Department of Agriculture will do all in its power to hold the soybean carry-over next fall to a minimum. Its power is over soybean oil. If USDA is able to bolster prices, by exports or stockpiling, a larger crush of beans and declining prices for meal will result."

PRICES

(Continued from page 1)

months appear to be headed for an average about the same or a little higher than in the previous year.

As compared with a year earlier, egg prices are expected to slip 5-6¢ this fall and 2-3¢ in the first half of 1962.

Dr. J. R. Roush says larger flocks and an increased rate of lay could result in 3-5% more egg production during the remainder of 1961 than a year earlier. "If the cut-back in hatchings of egg-type chicks, which began last May, continues into 1962, egg prices in the last half of next year could average above the last half of this year," he notes.

Marketings of fed cattle this fall probably will be only slightly larger than a year ago, says Dr. M. B. Kirtley. The modest increase in slaughter is not expected to reduce cattle inventories, and numbers next Jan. 1 probably will show a small increase.

Higher consumer incomes, the population increase and less competition from broilers than during the past summer are expected to establish fall prices equal to or higher than those of a year earlier.

"The present cycle in cattle numbers seems to be moving upward slowly enough so that a sharp collapse of prices is unlikely in the near future," Dr. Kirtley observes. "Beef supplies are now increasing only slightly more than the 1⅔% yearly increase in population."

From all indications, according to Dr. R. B. Schwart of the Illinois staff, hog prices for the last half of this year may generally follow the trend of the favorable hog years, but at levels about $2 lower. He says expected supplies of hogs during the first part of 1962 suggest an upward price trend with prices for barrows and gilts at terminal markets averaging $15.50-16.50. The last half of 1962 may see prices slightly weaker than in the same period this year.

The 1962 lamb crop appears likely to be smaller than that of this year, says Prof. L. H. Simerl. The number of ewe lambs on hand Jan. 1 was down 11% from the year before and slaughter during the first half of this year was 13% greater than it was a year before.

GALVIN

(Continued from page 4)

mal. Illinois, as usual, is the banner state with a prospect for 170,748,000 bu. Less than 25 years ago, the entire U.S. did not raise as many soybeans as are now indicated for Illinois alone.

A crop of the size called for by Mr. Galvin augurs for all-time high impoundings under the government support program calling for $2.30 as the national "on the farm" loan average. Likewise, it is practically certain to result in an all-time high carryover on Oct. 1, 1962, despite the fact that one Washington news organization that sells its service to clients a couple of weeks ago credited the USDA with having determined upon a fantastically low figure of only 40 million bushels.

Of course, one will have to admit that this 40 million stab-in-the-dark was made on the assumption that the 1961 crop would not be more than 700 million bushels—but it's still a wild-eyed guess.

Very few people in the grain trade here were "going" for that extremely small guess—and if it should ultimately prove to be reasonably correct, it would have been accomplished only by the heaviest kind of subsidies, augmented by outright giveaways, barters, back-fence trades and another bad year for the olive crop along the Mediterranean. USDA made some bad projections in the past. It's not so long ago that it had it all figured out that central Europe was going to be flooded with Manchurian beans; but it turned out to be only a trickle instead of a "gully-washer."

CONTROL

(Continued from page 1)

marketing orders in the broiler industry, with the program applied at the hatchery level. New legislation affecting turkeys also would make possible marketing orders affecting handlers of hatching eggs as well as the turkeys.)

In the present turkey industry disaster situation, some are hoping that the school children, under the turkey buying program, will eat up enough turkey to protect producers from bankruptcy. But it appears that this sort of program just can't take up the big turkey surplus.

Some producers and others in the turkey industry have been pressing for regional marketing orders and agreements, with quotas, because they have realized that if they had a big production base, they could maintain a strong position if and when a marketing order and agreement with quotas were put into effect.

While these are severe times for the broiler and turkey industries, and while some efforts are being made to obtain marketing orders and quotas, there seems to be little likelihood that such could be accomplished here.

USDA

(Continued from page 1)

It is interesting to note that markets fail to respond to the ideals and ideas made in cloistered halls of the university. But most important is the observation made to this reporter that the examination of the PIK program by a work staff at USDA reflects a basic fault in the supply-management concept. The observer, not this reporter, succinctly states his view this way: "Approaches by administrative action to kill PIK mean that the supply-management technicians have come to the conclusion that this control philosophy cannot tolerate — cannot co-exist — with any influence of free markets in price making."

At the top side of USDA, officials have declined to admit that a task force is working on a program to kill PIK. One would be naive to believe that the task force group was created without a word from the top.

The startler for the USDA management folks is the realization that as they started to dump certificates acquired under the sorghums phase of the feed grain program the free market was selling well under their price ideas and the USDA sales were not necessary or an effective penalty to the non-compliers. And also much to their surprise they found that rather than penalizing the non-compliers they had created a windfall to some exporters who grabbed up the bargain basement business and moved sorghums into the export stream despite the fact that there was no current USDA subsidy available. Some part of current U.S. export shipments was committed much earlier when a subsidy had been approved.

Curious folks, these merchants.

Now the supply-management technicians are pondering on ways to extract themselves from the commercial jungle in which they find themselves.

But that is only the beginning.

It is clear that USDA has contemplated a sales schedule for pooled certificate corn. Markets for cash corn are sinking badly presumably in anticipation of a heavy outturn for that crop plus a rather embarrassing crop condition for soybeans, perhaps exceeding 725 million bushels. USDA now faces a somewhat difficult equation of how to get corn prices up next August. Congressional statements have indicated that USDA is thinking of a target level of corn at $1.25 at that time.

When you have too much, one may think that price-breaking is a fine tool. But when you have too much and the free markets have too much and the buyers and the sellers have lost confidence in the commodity it is a very stiff situation to face.

How can USDA get the corn price up to $1.25 next August without a complete withdrawal of its stock? Perhaps it may increase the corn loan support level and drive out of the open market such corn as otherwise might be available in the market at the present loan.

In any event, it looks like a mess, and the sincere folks who are trying to make supply-management ideals work may be compelled to jettison the rather effective PIK program which has been the single reed on which free commodity markets have been sustained under the Gibraltar-like stocks of government surpluses.

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
July 1	1,244	432	781	827	89	1,093	1,743	2,332
July 8	1,231	287	761	781	57	986	1,696	2,280
July 15	1,207	357	744	869	109	1,028	1,558	2,253
July 22	1,256	344	750	852	109	887	1,769	2,133
July 29	1,176	400	841	825	83	898	1,739	1,934
August 5	1,167	307	805	822	98	891	1,821	1,971
August 12	1,190	245	762	851	74	858	1,545	2,147
August 19	1,169	334	794	766	77	838	1,822	2,034
August 26	1,211	294	665	751	69	761	1,529	2,246
September 2	1,182	319	686	693	112	744	1,580	2,085

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
July 1	1,112	474	3,955	441	7,592	261	4,236	2,922
July 8	1,036	524	3,866	449	7,882	224	4,393	2,813
July 15	1,080	484	3,831	468	7,765	256	4,264	2,896
July 22	1,019	505	3,848	403	7,454	246	4,214	2,853
July 29	981	479	3,642	428	7,451	235	4,059	2,856
August 5	891	535	3,544	440	7,310	262	4,077	2,728
August 12	912	396	3,403	473	6,969	204	3,986	2,659
August 19	825	458	3,408	415	6,555	216	3,816	2,525
August 26	905	352	3,313	444	6,055	203	3,725	2,538
September 2	807	340	3,205	380	6,017	243	3,551	2,402

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1961	Total 22 areas 1960
July 1	5,060	571	2,843	376	264	1,436	40,444	37,368
July 8	5,121	539	2,606	330	207	1,262	39,251	36,473
July 15	5,117	557	2,682	272	231	1,238	39,266	36 077
July 22	4,949	535	2,486	364	239	1,243	38,458	35,034
July 29	4,813	563	2,492	324	266	1,170	37,655	33,641
August 5	4,593	491	2,522	354	231	1,192	37,052	32,956
August 12	4,557	453	2,442	354	235	1,151	35,866	31,876
August 19	4,135	433	2,348	301	208	1,191	34,688	30,816
August 26	4,177	403	2,340	351	181	1,118	33,631	30,035
September 2	3,996	378	2,209	298	200	1,098	32,525	29,496

METHODS

(Continued from page 66)

liquid may remove the color from the salt or even dissolve some particles before the count can be accomplished.

Like the colored granule method, this method is usable primarily with unpelleted feeds, since pelleting compresses the granules so that they are very difficult to separate and observe. Certain other equipment such as highspeed blenders may reduce the particle size an undetermined amount and thus give confusing results.

(3) The **radioactive isotope method** is the last method to be described. By means of one of the suitable isotopes, it is possible to check distribution of the particular portion containing the radioactive material, in many cases, while the process is in progress.

In order for radioactive tracers to be used in feed mixing studies, the material selected for use must meet several requirements:

1. It must be non-toxic at the level employed.

2. The half life (time required for half of their energy to disappear) must be long enough to allow transportation from the radiation source, premixing, mixing and other processing, sampling and counting before the radioactivity reaches a level too low for successful counting.

3. At the same time, the half life must be short enough so that the normal practices of distribution will not be disrupted while waiting for the radioactivity to decay to an allowable level.

After a radioactive isotope has been selected and a suitable instrument for measuring the activity is acquired, the following procedure may be used:

1. Mix a known amount of radioactive element uniformly with a known weight of premix or specific ingredient.

2. Weigh a representative sample of this mixture and retain as a reference standard for dilution calculations.

3. Add the premix to the mixing system in the normal manner and mix and process according to standard operating procedure.

4. Sample at desired locations in the system, or from the bagged feed, according to the measuring schedule being followed.

5. Measure the radioactivity of the samples collected and compute the distribution of the active compound or the premix which was used as a carrier for the active material. (See Table 1.)

TABLE 1. Selected Radioisotopes Which Have Been Recommended for Use in Mixing Efficiency Studies

Radioisotope	Half life*	Gamma radiation
Fluorine 18	1.87 hours	P .64
Iodine 132	2.33 hours	
Potassium 42	12.40 hours	1.51
Copper 64	12.80 hours	1.35
Sodium 24	14.80 hours	1.38, 276
Molybdenum 99	67.00 hours	0.74, 0.78
Phosphorus 32	14.30 days	None
Sulfur 35	87.10 days	None
Calcium 45	180.00 days	None
Strontium 89	55.00 days	None
Iron 59	46.30 days	1.31
Iodine 131	8.00 days	0.638

*Isotope half-life is time required for one half of radioactivity to disappear.

As more quality control people gain experience with radioactive materials and methods and the approval of the Food and Drug Administration is given, these procedures can be expected to be widely used for solving many of the industry's problems of measuring dispersion of ingredients, mixing efficiency and contamination.

SUMMARY—In summary, a review has been presented of many of the methods available for use in studies of the dispersion of ingredients in feed mixtures. No attempt has been made to cover the complex problem of sample collection and handling, or of sample scheduling, or of the mathematical or statistical treatment of the data obtained by the use of these methods.

By proper selection, application and collaborative study of these methods and newer methods as they are developed, it will be possible to establish standard procedures that can be utilized throughout the feed industry for measuring dispersion of ingredients, process equipment efficiency and effect on the end product, and to obtain higher standards of quality control in the industry as well as in individual manufacturing plants.

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KENTUCKY

(Continued from page 6)

eral laws and officials all striving toward service to the feed buyer.

In commenting on prospects for still more use of additives, Mr. Boyd noted that formula feed production of 50 to 60 million tons is forecast for 1970, compared with 39.5 million in 1960.

While there have been problems in connection with federal laws and their interpretation, Mr. Boyd pointed out that understanding is replacing misunderstanding and confusion, and solutions should be reached if all work together, to the benefit of all. He mentioned the AFMA work with FDA in straightening out questions in the use by local mixers of concentrates containing drugs. This is an example of progress and cooperation being made with FDA. Until this was worked out, it had been indicated that local dealers would have to have permits to use concentrates containing certain drugs.

Dr. W. P. Garrigus of the University of Kentucky pointed out that between 1958 and 1961, Kentucky moved from 26th to 17th among the states in beef cattle numbers. He said that the beef industry in the state could increase by $100 million within the next 10 years, practically doubling in size. This will depend in considerable measure on whether there is research to find necessary answers to various questions. He went on to review livestock research at the university.

J. E. Stanford, public relations director for the Kentucky Farm Bureau Federation, predicted that the next 15 to 20 years would be the "golden age" of agriculture—a period of "expansion, continued improvement and prosperity"—even though there will always be a "bumper crop of pessimists."

He based his optimistic view on: (1) A continued heavy increase in urban population, (2) improvement in quality of farm products, (3) larger and fewer farms, (4) more agricultural education, (5) bigger and better organizations of farmers.

"Yellow Tag" Discussion

At one point in the meeting, there was a discussion on the floor of the Kentucky "yellow tag." It was agreed that both the industry and control workers would check into this thoroughly to determine whether this feature of labeling under Kentucky law may now be abandoned.

(Summaries of other discussions will be presented later.)

The Kentucky group elected officers for the coming year. They are Eldred Neubauer, Farmers Elevators, Inc., Owensboro, president; Carroll Henry, Crescent Roller Mills, Taylorsville, vice president, and Jack Weber, Lexington Roller Mills, secretary-treasurer.

PENNSYLVANIA

(Continued from page 7)

dustries such as bottlers, metal fabricators and food processors being decided in favor of the department of revenue by courts in Pennsylvania."

On July 1, 1959, the board of directors of the Pennsylvania Millers & Feed Dealers Assn. officially decided to back a case involving Sprout, Waldron & Co., Inc., Muncy, Pa., a supplier of equipment to many mills in the state. This corporation had been assessed under the Pennsylvania sales tax.

Actually, this case was never decided, since the legislature did not agree with the narrow interpretation of the question when it passed House Bills 1663 and 1664, the association notes.

Industry spokesmen have indicated that they are generally pleased with legislative approval of the two bills, "since at the very least this will mean a 4% savings on power used in processing, plus whatever is contemplated in new equipment."

10 Counties to Get Feed Assistance

WASHINGTON—Ten additional counties have been designated recently as disaster areas in which ranchers and farmers are eligible to buy Commodity Credit Corp. owned feed grain at the current support price, it has been announced by Secretary of Agriculture Orville L. Freeman.

The counties being designated are: Bear Lake and Lincoln counties in Idaho, Golden Valley and Phillips counties in Montana and Campbell, and Johnson, Sheridan, Lincoln, Sweetwater and Uinta counties in Wyoming.

This designation of 10 additional counties makes the emergency livestock feed program applicable to a total of 131 counties in nine states.

The numbers of counties per state designated are: Idaho, 2; Montana, 24; Wyoming, 10; Michigan, 6; Arizona, 2; Nevada, 11; North Dakota, 53; South Dakota, 14, and Wisconsin, 9.

MARKETS

(Continued from page 2)

a full 40-hour week. As yet, there is no evidence of overtime.

Call for cattle feeds is broadening slightly. Demand for turkey feeds and egg mash is holding up well and there is nothing in the hog market to bring about any pessimism regarding a continued steady movement of feeds into that channel.

Ohio Valley

Farmers in the Ohio Valley were knee-deep in harvest this past week. The hot humid weather of the previous weeks continued, which was good not only for harvesting but for the maturing of late crops. Harvesting of the second crop of clover-timothy is about over, with the third crop of alfalfa coming along. Ground planting for wheat is half over.

Demand for manufactured feeds is quiet. The poultry glut continues, and not much relief can be expected for poultry feeds until the consumer eats his way out of the abundance. Demand for turkey feeds will end in several weeks as the birds are now being readied for the consumer market. Field grasses are still good for pastures, despite the lack of rain.

Manufacturers say demand for their products will remain fairly dormant until colder weather sets in, and a few are of the opinion that there will be no appreciable pick-up in demand until after the first of next year. Most mills are operating on a 40-hour work week with reduced help on a staggered work schedule.

South Central

Formula feed activity held up very well last week despite the interruption of the Labor Day holiday. Orders were fully equal to those of a week earlier and most plants were forced into overtime operations. Some firms ran on Saturday to compensate for the lost production while others stretched out shifts during the week.

On the plus side of the ledger was a good steady hog feed business, a further modest increase in pig feed outgo, and a small start on the fall cattle feed business.

On the minus side was a sharp dropoff in turkey feed deliveries. Reports from processors indicate that some growers are marketing their flocks before they are properly finished, supposedly because they don't want to put any more cost into them. In any event, the processors are unhappy with the way the birds are dressing out. Hens dress out better than the toms which accounts for processors passing up toms whenever possible in favor of hens.

Pacific Northwest

Formula feed movement was listed as being somewhat slower throughout Oregon, Washington and Idaho during the holiday week.

Numerous mixers reported that dairy cattle and broiler ration sales declined to a new seasonal low. It was emphasized that the broiler feed ratio is the most unfavorable in recent years.

Portland broiler quotes, which last week gained 3¢ at the inside of the general range, slipped the same amount this week in front of a slow post-holiday demand. The outside fryer price to area producers held unchanged at 19¢ lb., f.o.b. Willamette Valley ranches.

Portland producer egg prices held unchanged for the second consecutive week with AA extra large ones bringing producers 41-46½¢ a doz. AA grade large eggs are holding within a wide range of 39-44½¢.

Pacific Northwest turkey prices continued to be at the lowest level in years. Oregon's production is estimated to be the largest since 1953 compared with a nationwide total that is the largest of record.

Portland area retail markets are advertising A grade, 1961 crop, frozen hens at mostly 39¢ lb. while fresh dressed, fryer-roaster turkeys are retailing at 49-53¢ lb. Both prices are around 10¢ lb. lower than one year ago.

Delmarva

Hot weather has cast a reflection on the feed industry this past week. High temperatures knocked broilers off their feed. But at the same time picnics must have been plentiful because dressed birds have met ready demand.

Delmarva broiler growers have cut their production back to about the same as it was for corresponding weeks of last year. The national chick placement figure is still running about 10% above a year ago.

Broiler feed prices averaged $93.52 ton last week, about a dime cheaper than the previous week. The average price for broiler meat was at 12.62¢, making the meat-feed ratio 2.7. A pound of broiler meat would only buy 2.7 lb. of feed.

There is less complaining now about broiler prices, only a few feed contractors have gotten out of business, and there are only a few broiler houses empty. Apparently the feed contractors have settled down to "ride out the storm."

Mountain States

Feed volume is running generally steady in this area, dealers report, and probably will continue steady for the next couple of weeks. Prices generally are weaker and lower, as some of the major feed crops are now hitting the market.

Turkey feeding is dropping off rapidly and most of the birds will be marketed by October. Some dealers predicted that because of the cost-price squeeze, marginal turkey growers will be out of business in this area and there will be fewer producers here next year.

Cattle feeding probably will not start for a while yet; grass still looks good.

Northern California

Operations in mixed feed plants report a normal five-day week with some plants running a little over. Current demand shows a "holiday bulge" with business still running ahead of last year. In some instances it is reported as much as 18-20%.

The majority of the feed plants are noting increased production in chicken laying mash and turkey feeds. Turkey feeds are still in strong demand with an expected peak to be reached in October. This conforms with the reports that there are more turkeys being raised than in 1960.

Cattle feeds are running about normal for this time of year. In certain areas, cattle are feeding on permanent pastures.

Dairymen are faced with providing supplemental feeds as pastures and ranges continue to dry up. Dairy feeds continue to move slowly on a seasonal basis.

Warm weather continues to prevail throughout the northern part of the state.

Southern California

Feed sales and production have been affected again due to extremely warm temperatures.

Poultrymen expect feed demand to increase by the end of September. Some feed mill managers express concern that several poultry rancher customers expanded extensively after realizing excellent net profits last year and now face certain cash deficiencies with lower egg prices than last season at this time. In general, poultrymen are making good profits this year due to reasonable egg prices and lower feed costs, but these profits will not match last year's margins. Many producers are talking about increasing replacements and expanding as they feel fall egg prices will remain steady or increase.

Broilermen are discouraged with lower market prices; a 13¢-per-lb. market is well below production costs and the outlook is not encouraging unless "Uncle Sam" begins to purchase these broilers for the various give-away programs.

Lower turkey prices are reported in the San Joaquin Valley (heavy turkey producing counties). Hens are selling at 20¢ lb. and toms at 18¢ lb.

Cattlemen are optimistic about higher beef prices late this fall and at least feel confident that the market will not decline.

INDEX OF ADVERTISERS

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Abbott Laboratories 20, 21
Ace Supply & Equip. Co. 78
Aeroglide Corp. .....
Agri-Tech 61
Alpumina Supply Co. .....
Alloy Hardfacing & Eng. ...
Amburgo Company 66
American Cyanamid Co. ...36, 37
American Dehydrators Assn...
American Elev. & Grain Div...
American Scientific Lab. 51
Anderson Box 84
Anderson, V. D., Co. 106
Arbor Acres Farm 11, 69
Archer-Daniels-Midland Co., Alfalfa Division 105
Aubrey & Co. .....

Baker Equipment Eng. Co. ..
Baker, H. J., & Bro., Inc. ..
Baroid Chemicals, Inc., Subsidiary of Nat'l Lead Co... 24
Bartlett, C. O., & Snow .....
Baughman Mfg. Co., Inc. ... 86
Baxter, A. E., Engineering Co
Beardstown Mills .....
Bemis Bro. Bag Co. 55
Berg, Paul 40
Blatchford Calf Meal Co. ... 69
Blomfield-Swanson .....
Borden Co. .....
Bowman Feed Prod. 54
Bradley-Barr & Co. .....
Brock Mfg., Inc. .....
Brower Manufacturing Co. ... 81
Brown's Ledbrest, Inc. .....
Bryant Engineering Co. 93
Burlap Council .....
Burrows Equipment Co. 45
Butler Mfg. Co. .....

C-K Processing Co. .....
Calcium Carbonate Co. ...24, 87
California Pellet Mill Co. 92
Cardinal Scale Mfg. Co. ....
Carey Salt .....
Cargill, Inc. .....
Champion Portable Mill Co. .. 14
Chase Bag Co. 77
Checkerboard Grain Co. .....
Chick-Master Incubator Co. .. 74
Ciba Pharmaceutical Co. ... 86
Cleveland Vibrator .....
Clinton Corn Processing Co... 76
Clofine, Herbert K. .....
Clupak, Inc. 61
Cobb's Pedigreed Chicks, Inc. 62
Columbia Phosphate Co. ....
Columbia Quarry Co. 90
Columbian Steel Tank 72
Commercial Solvents Corp. .. 9
Consolidated Blenders, Inc. ..
Consolidated Quarries Div., The Georgia Marble Co. .. 102
Consolidated Water Power & Paper Co. .....
Continental Grain .....
Corn Products Sales Co. ...
Custom Millers Supply Co. .. 54

Daffin Manufacturing Div. ...
Dannen Mills, Inc. 58
Darling & Co. 101
Davies, Wm., Co., Inc. .....
Davis Enterprises 66
Davis, H. C., Sons' Mfg. Co. Inc. .....
Dawe's Laboratories, Inc. ... 110
Day Company, The 38
Daycom, Inc. 69
Dayton Bag & Burlap .....
Deere, John, Chemical .....
Delaware Poultry Labs. .....
Devold, Peder 10
Diamond Alkali Co. .....
Diamond V Mills, Inc. 88

Distillation Products Industries 63
Distillers Feed Research Council .....
Doane Feed Products 41
Dodgen Industries 97
Dorn & Mitchell Laboratories.
Douglas Chemical Co. 73
Dow Chemical Co. 28, 29
Duplex Mill & Mfg. Co. ..33, 34
Du Pont de Nemours & Co., Inc., E. I. .....

Eastman Chemical Prod., Inc
Ehrsam, J. B., & Sons Mfg. Co., The .....
Elanco Products Co. 43, 84
Eriez Mfg. 24
Eschenheimer, Rudy, Co. 102
Eshelman, John W. .....
Ewing, Ray, Co. 65

Fitzpatrick, U. E., & Co. ..
Fischbein, Dave .....
Flavor Corp. of America....
Food Mach. & Chem. Corp.
Forster Mfg. Co. 31
Fox Co. 101
Frontier Chemical .....
Fruen Milling Co. .....
Fuller Co. .....

General Mill Equipment Co...
Gerber Sheet Metal 41
Gland-O-Lac Co., The .....
Gorton-Pew Fisheries .....
Grace, W. R., & Co. .....
Grain Belt Supply Co. .....
Grain Processing Corp. 5
Gump, B. F., Co. 98

Hand, Peter, Foundation ... 3
Hardy Salt 49
Harris Lab. .....
Harshaw Chem. 76
Haugen, W. D., Co. 31
Hayes & Stolz Ind. Mfg. Co
Haynie Products, Inc. .....
Heil Co., The .....
Heisdorf & Nelson Farms, Inc
Henderson Mfg. .....
Henke Mfg. Co. .....
Hess & Clark, Inc. .....
Heterochemical Corp. 92, 93
Hilltop Lab. .....
Hoffmann-La Roche, Inc. ....
Hoffman-Taff, Inc. 72
Hogenson Const. Co. 44
Hogg, N. D., Ltd. .....
Holt Products .....
Honeggers' & Co. 46
Hooker Chemical 80
Hot Spot Detector .....
Howes, S., Co., Inc. .....
Hubbell, Charles H. 84
Huss & Schlieper .....

Ibberson, T. E., & Co. 96
Illinois Liquid Feed .....
Illinois Soy Products 30
International Minerals & Chemical Corp. 59
International Salt Co., Inc. ..
Iowa Limestone Co. 46

Jacobson Machine Works ... 95
Jersee Co. 94

Kansas Soya Prod. Co., Inc...
Kees & Company 74
Kem Mfg. Co. 85
Kent, Percy, Bag Co., Inc...
Keystone Steel & Wire .....
Kindstrom-Schmoll Co. 81
Koyker Mfg. Co. 27

Kraft Bag Corp. .....
Kraft Foods Co. 78

LaBudde Feed & Grain Co... 44
Landers Mach. Co. 62
Land O'Lakes Creameries, Inc.
Lauhoff Grain Co. .....
Leach Mfg. Co. 99
Limestone Products Corp. of America 27
Loncala Phosphate Co. 38

McCabe Grain Co., Ltd. 86
McMillen Feed Mills .....
McWhinney, E. L. .....
Magnus, Mabee & Reynard.. 74
Maney Bros. Mill & Elev. Co. 105
Marion Feed Center 11
Mayo Shell Corp. 74
Merck & Co., Inc. 39
Meyer, C. W. 50
Micro-Tracers, Inc. 98
Mid-Continent Grain Co. 51
Mid-States Construction 80
Midwest Dried Milk Co. .....
Millbrew Co. 101
Miller, Mel, & Co., Inc. ...
Miller Publishing Co., The ...
Minneapolis Sewing Mach. .. 30
Monsanto Chemical .....
Mooers Mfg. Co. 21
Morton Chemical Co. .....
Morton Salt Co. 11
Myers-Sherman Co. 22
Myzon Laboratories 15

Nagel, Herman, Co. 58
National Alfalfa Dehydrating & Mfg. Co. .....
National Molasses Co. .....
National Oats .....
National Renderers Assn. ...
Nellis Feed Co. 22
New Century Co., The .....
New England By-Prod. Corp...
Nichols, Incorporated 20
Nootbaar, H. V., & Co. .....
Nopco Chemical Co. 52, 53
North American Trading & Import Co. .....
Nor-Vell, Inc. .....
Nutri-Lab Mixing Corp. .....

Olavarria & Co. .....
Oliver Machine Works 14
Oyster Shell Co. .....
Oyster Shell Prod. Co. 32

Pabst Brewing Co. .....
Paper, Calmenson & Co. 102
Parks, J. P., Inc. .....
Parrish & Heimbecker .....
Parrish, N. K. .....
Paxton Processing Co. 101
Pay Way Feed Mills, Inc. .....
Peavey, F. H., & Co. .....
Penick, S. B., & Co. .....
Peterson Breeding Farm 96
Pfizer, Chas., & Co., Inc. 23, 56, 57
Phelps Dodge .....
Pilch's Poultry 91
Pillsbury Co., The .....
Pittsburgh Plate Glass Co. ..
Pless, Joe N., Co. .....
Pope Testing Lab. .....
Poultry By-Products Assn. 35
Power Curve Conveyor 92
Prater Pulverizer Co. 75
Productive Acres Mfg. Co. ... 10
Professional Feeds Div. .....
Protein Blenders .....
Publicker Industries, Inc. 25

Quaker Oats Co. .....

Ralston Purina Co. .....
Rapids Machinery Co. 91
Red River Alfalfa Co. 81
Reilly Tar & Chem. Corp.... 31
Reliance Feed Co. 27
Renneburg, Edw., & Sons Co.
Richardson Scale Co. 58
Ripco, Inc. .....
Roskamp Huller Co. .....
Ross Mach. & Mill Supply .. 85
Ryde & Co. 96

St. Regis Paper Co. .....
Salsbury's, Dr., Labs. .....
12, 13, 47, 70, 71, 82, 83
Schenley Distillers, Inc. 94
Schutte Pulverizer Co., Inc...
Scott Paper .....
Seagram, Joseph E., & Sons, Inc. .....
Sedberry, J. B. 42
Seedburo Equipment Co. 89
Shelby Mfg. .....
Shellbuilder Co. 16
Sievert, C. W. .....
Simonsen Mfg. Co. .....
Sioux Products 72
Small, The W. J., Co. 105
Smith-Douglass Co., Inc. ...48, 49
Soft Phosphate Co. 61
Sohio Chemical Co. .....
Southwest Mill Supply Co. .. 101
Specifide .....
Spencer Kellogg & Sons, Inc
Sprout, Waldron & Co., Inc.. 102
Squibb, E. R. .....
Stabilized Vitamins 50
Standard Brands, Inc. 66
Sterwin Chemicals Inc. 79
Stivers, T. E., Co. .....
Sudenga Industries 90
Sunset Feed & Grain Co. ...
Superior Boiler Works .....
Superior Div. of Daffin Corp. 64
Superior Feed Co. .....
Sutorbilt Corp. .....
Swanson, Carroll, Sales Co... 66
Sweet Mfg. .....

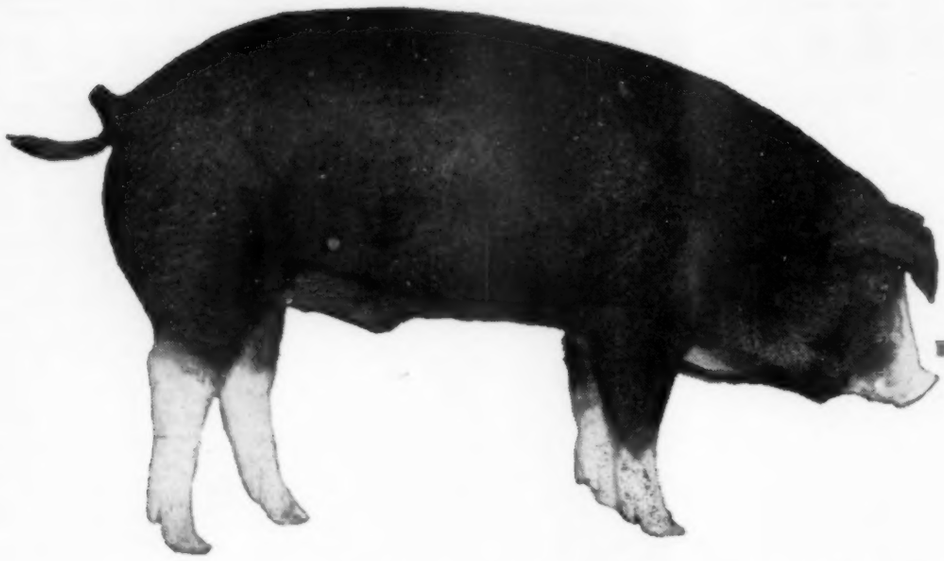
Taste Engineering Co. .....
Thomas Conveyor 61
Thompson-Hayward 30
Toledo Scale .....
Toxite Laboratories 84

Ultra-Life Laboratories, Inc... 35
Union Bag-Camp Paper Corp.
Union Special Machine Co. .. 98
Universal Hoist Co. .....
Upjohn Co. .....

Vantress, Chas., Farms, Inc... 17
Vineland Laboratories, Inc. ..
Vineland Poultry Lab. .....
Vitren Corp. 88
Vy Lactos Laboratories, Inc... 96

W-W Grinder Corporation .. 38
Warren Douglas 38
Wellens & Co. .....
Wells, Ralph, & Co. 90
Wenger Mixer Mfg. 101
Wertz Feed Products 89
Western Condensing Co. ....
Western Yeast Co. .....
West Fargo Mfg. Co. .....
White Shell Corp. .....
Whitmoyer Laboratories, Inc... 44
Wilhoit Laboratory 44
Wilson & Co. .....
Wilson, R. S., Co. .....
Wilson Trailer 16
Winger Mfg. Co. 67
Wirthmore Feeds .....
Wyatt Mfg. .....

Young, John .....



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